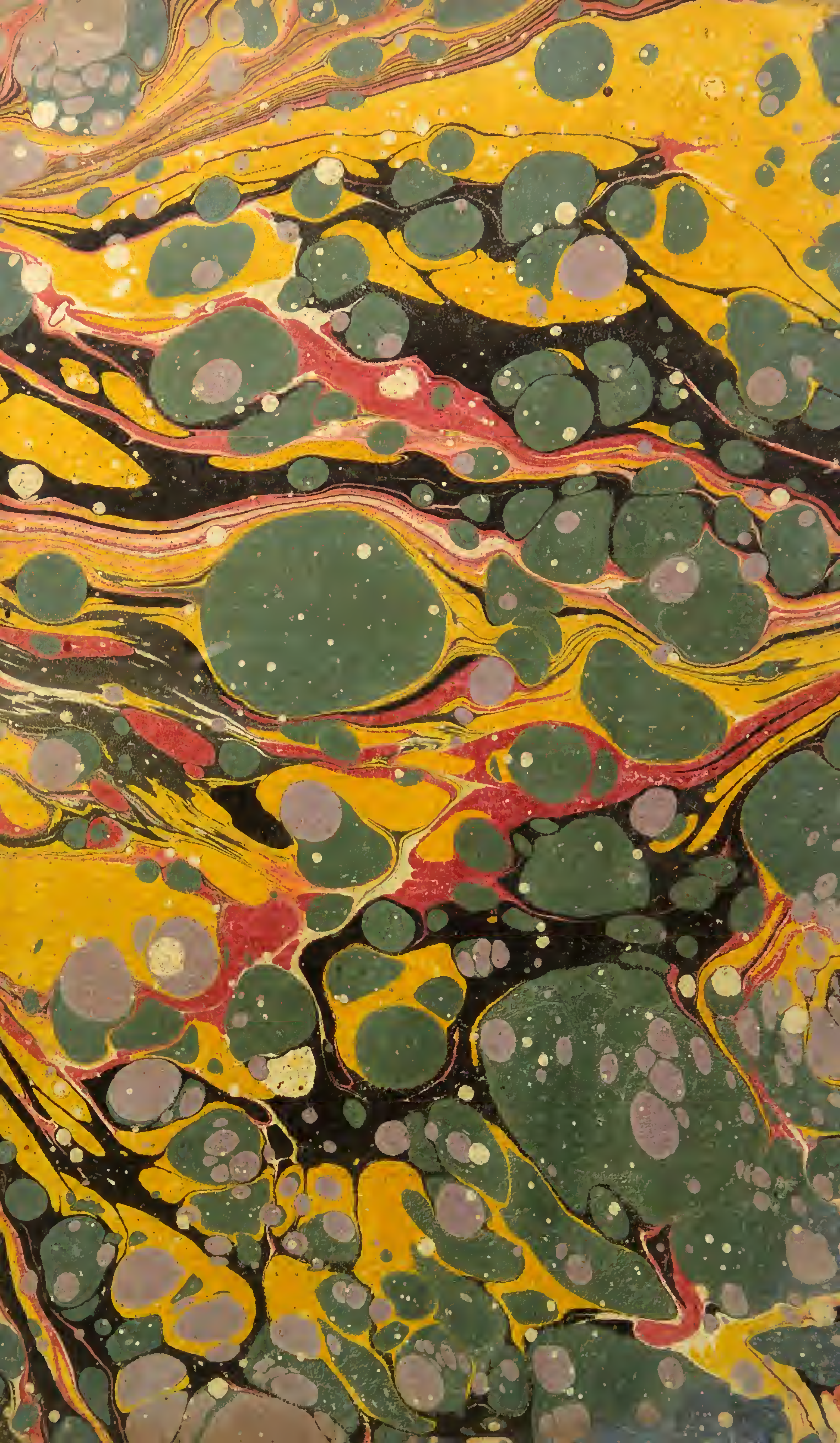




LA CROIX, D. de

3rd issue with additional errata

copy 1



Hibbart, Bath.

Barometz sive Agnus Scythicus

Pag. 33.

CONNUBIA FLORUM

LATINO CARMINE

DEMONSTRATA

AUCTORE D. DE LA CROIX, M. D.

NOTAS ET OBSERVATIONES

ADJECIT

RICHARDUS CLAYTON,

BARONETTUS.

BATHONIÆ:

EX. TYPOGRAPHIA S. HAZARD.

M.DCC.XCI.

T. WHITE, M. D.

PARVULUM HUNC LIBELLUM

(FRATRI

FRATERNO AMORE

OLIM DICATUM)

EADEM FIDE & ANTIQUA OBSERVANTIA,

DE NOVO EDITUM

D. D.

RICHARDUS CLAYTON.

PRÆFATIO.

Prodit iterum Libellus, cui Titulus eſt, " Connubia Florum," abhinc pluſquam ſexaginta annos vulgatus. Auctor fuit D. de la Croix M. D, qui, morte abreptus, dum alteram operis partem meditaret, ei ultimam manum admovere nequiit. Unicus, prout ſcio, ſui Ingenii Fœtus, quem nobis reliquit, omiſſis quibuſdam Epigrammatibus quæ in Præfatione Vaillanti Botan: Pariſis: occurrunt, nec Parentis Famæ, nec Memoriæ, ni fallor, Dedecori erit. Durâ tamen et infelici Sorte, Oblivione et Silentio obrutum fuiſſe ab Incunabulis videtur. Si enim noſtrum

Epiſcopum Roffen.* Elegantiæ et Latinitatis haud iniquum certe judicem, excipiamus, et illuſtrem Albertum Haller, qui "Connubia Florum" in ſuâ Bibliothecâ Botanicâ tantum non oblitus eſt, perpauciſſimi vel Auctoris vel Poematis uſquam meminerunt. Ævi fortaſsè vitium fuit.—Habet enim unumquodque Tactum quaſi ſibi peculiarem, et Studia quodammodo conſentanea, aliorum vel prorſus negligens, vel parum curans. Præclarè de

Naturâ

---

* I have ſent you ſix Copies of a Latin Poem, writ by an Iriſhman here at Paris, which, in ſome Parts of it, is excellent, and approaches very near to the manner of the Verſification of Virgil's Georgics. Pray give one to Dr. Wintle and another to Dr. Hales, a third to Mr. Nicoll, a fourth to Obby's quondam Tutor, a fifth to Dr. Frewin, and keep the ſixth yourſelf. I add two more for Dean Swift and Mr. Pope.

Letter to Mr. Morice,
Atterbury's Correſpondence, Vol. 4. 167

Naturâ disseruisse Aristotelem, atque idem fecisse Theophrastum, Diascoridem, et Plinium nemini latuit, nec me fugit multos† et nostrâ et Patrum ætate de eâdem optimè meruisse. Sed et rarum est hoc Hominum eruditorum Genus, et plerumque fit, ut hi fere omnes, de re medicâ plùs quam de botanicâ solliciti, ad Plantarum formas, earumque Virtutes explicandas, se totis viribus contulerint, dum Naturæ ignotas Leges, ejusque secretos sed certos Labores perscrutari rarò admodum conati sunt. Egregié e longinquo de sexu Plantarum divinasse dicitur Millingtonus noster, quem secuti sunt Nehemias Grew, et Sebastianus Vaillant, licet Johannes Ray ob Eruditionem et mores pari-

 ter

† Vid. Alberti Haller: Bibliothecam Botanicam, et Auctores Botanicos, quos sub Præsidio D. D. Car: Linnæi proposuit August Loo. Linnæi Amænit: Academ. Tom. v. 273. Ed. Erlang: 1788.

ter insignis, Hypothesin "ut verisimilem tantum admisit." Eadem apud Antiquos, eadem erat Plinii Sententia. Nihil de Plantarum sexu pro certo habuit, sed "*Arboribus, immo potius omnibus quæ terra gignit, Herbisque etiam utrumque Sexum esse diligentissimos Naturæ tradidisse," ait. In Ficu, et Phœnice, sive Palmâ, et Marem et Fæminam extitisse, et hanc masculis Floribus† vel farinâ fæcundari minimè ignorabant, sed

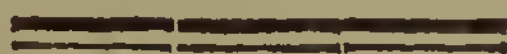
---

* Plinii Hist. Nat. Lib. 13. Tom. iii. 65, Ed. Harduin. Quarto, 1685.

† Εἰσὶ δὲ σφι Φοίνικες πεφυκότες ἀνὰ πᾶν τὸ πεδίον, οἱ πλεῦνες αὐτέων καρποφόροι· ἐκ τῶν καὶ σιτία καὶ οἶνον καὶ μέλι ποιεῦνται. τοὺς συκέων τρόπον θεραπεύουσι τά τε ἄλλα, καὶ φοινίκων, τοὺς ἔρσενας Ἕλληνες καλέουσι, τούτων τὸν καρπὸν περιδέουσι τῇσι βαλανηφόροισι τῶν Φοινίκων, ἵνα πεπαίνηταί σφι ὁ ψὴν τὴν βάλανον ἐσδύνων, καὶ μὴ ἀπορ-

ſed dum in iiſdem et Quercubus, Tiliis, et Abietibus ſexûs utriuſque diverſitatem ſtatuere,* exin-

 de,



ῥέη ὁ καρπος τοῦ Φοίνικος. ψῆνας γὰρ δὴ φορέουσι ἐν τῷ καρπῳ οἱ ἔρσενες, καθάπερδὴ οἱ ὄλυνθοι.

Naſcuntur eis per campum omnem palmæ, pleræque fructiferæ; ex quibus et panes et vinum et mel conficiunt, eaſque colunt ficuum more et tum in aliis, tum palmarum, quas Græci maſculas vocant, quarum fructum circumligant iis palmis, quæ dactylos ferunt, ut illis maturet dactylum culex intrans, et non decidat fructus palmæ. Maſculæ enim in fructu ferunt culices, quemadmodum caprifici.

Herodot. Lib. 1. 92. Ed. Weſſ.

* Adde quod Theophraſtus de arundine dicit,

—διαιροῦσι γὰρ καὶ τοῦτο τῷ ἄῤῥενι καὶ θήλει.

Quippe & hanc mare fœminâque diſtingunt.

Theophraſt. Hiſt. Plant. Lib. 4. Ch. 12.

de, quod ſane mirum eſt, nihil ſimile de cæteris Plantarum Speciebus ſibi perſuadere auſi fuere. Sæpe etiam apud eos Mares pro Fæminis, et Fæminæ pro Maribus habentur, ut in Hiſtoriâ Cannabis, Mercurialis, Spinaciæ, et Humuli facillimè adpareat. Stet ſuum cuique Decus, et

——Sint ſua Præmia Laudi!

His tamen omnibus Veſtibulum Templi Botanici ſecundis Pedibus tantum attigiſſe datum fuit, dum Linnæus, Aurora reverá altera Borealis, Penetralia et intimos Receſſus illuminavit. Quam rudem et inſtabilem invenit molem, novo et ſolidiori fundamine fultam et firmatam reliquit, et Syſtema ſexuale, ſi ejuſdem Inventor haudquaquam dici poteſt, lucidioribus certiſſimé Argumentis, et Demonſtratione Philoſophicâ primus ornavit.

navit.* Sunt enimvero qui Plantarum Sexûs irrident,† multa oblivifcentes incredibilia exiftimari, quia antehac incognita, vel auditu nova, quæ, fi paulo accuratius explorentur, non modo non abfurda, fed plana et certa reperiuntur. Pulcherrimo Carmine Erafmus Darwin, M. D. nuper Plantarum Amores feliciter depinxit, fed neque inutilis, neque infructuofus Labor, ut fpero, cenferi poteft, ab iis præfertim, qui hifce Studiis ca-

 piuntur

---

* Tournefort a la gloire d'avoir fait le premier de la Botanique une Etude vraiment methodique, mais cette Etude encore apres lui n'etoit qu' une Etude d'Apothecarie. Il etoit refervé à l'illuftre Linnæus d'en faire une Science Philofophique.

Lettres de Rouffeau à Monf[r]. Dutens.
Œuvres de Rouffeau, Tom. 27. Edit. 8[vo]. Geneve. 1782.

† Bauhin, Morrifon, Tournefort, C. Alfton, Jul. Pontedera, Gul. Smellie, Abbas Spallanzani, &c. &c.

piuntur, ſi ad antiquiores fontes paululum accedere conemur.—

Omnia equidem in Poemate noſtro nec probamus nec credimus. Dum melleam et exquiſitam Latinitatem admiremur, ineptiſſimæ quædam Fabulæ occurrunt, et quo modo in Elegantiam pæné Virgilianam tot taleſque nec Pueris dignæ Ambages irrepere potuerint plane neſcimus. At, at,

——————— Pictoribus atque Poetis
Quidlibet audendi ſemper fuit æqua Poteſtas,

Hor. de Arte Poetica. 9.

et per Regiones ſibi forſan proprias jurè vagari Muſis licitum fuerit. Quin liceat! Nos vero, noſtri Auctoris Veſtigia comitantes, non in iiſdem ſemper Coloribus, nec in eâdem Luce ea ante Oculos noſtros poſita fuiſſe, de quibus Ratio eſt, fateri cogimur.

cogimur. Ixionis ad inſtar, nubem pro Junone, ut nobis videtur, nonnunquam amplexus eſt, ſed de rebus et imaginibus, quas in vacuo et inani Spatio ſibimet creare cenſuit, ubique dubitavimus.

MONITA.

M O N I T A.*

Planta eſt corpus organicum motûs ex ſe progreſſivi expers, quod alicubi per radicem alitur, creſcit, viget, ſeque multifariàm poteſt propagare; ſive latentibus in mari ſcopulis adhæreſcat, ut Còrallum; ſive petris extantibus, ut Muſcus; ſive vagetur in aquis, ut Stratiotes in Nilo; ſive pullulet ex humo, Roſa; ſive enaſcatur arboribus, ut Viſcum-Quernum; ſive craniis inhumatis, ut Uſnea; ſive coris mùcidis, ut probant miſcroſcopia; ſive demum in ipſo aëre humido, ut Cæpe & Batatæ.

Radix

* Auctoris Monita, etiamſi parum commodè, et, quibuſdam in locis, parum latinè ſcripta, relinquenda, tamen, cenſuimus, utpote a Lectore vel inter legendum corrigenda, vel omnino prætereunda,

RADIX deſcribitur congeries tubulorum quibus ſuccus nutritius excipitur per alios quidem trachearum oſcillantium preſſu in omnem plantæ habitum fluxurus, per alios verò ad radicem perenni circuitu refluxurus.*

UT durioribus in plantis truncus, ita in mollioribus caulis ramos, folia, flores, ſemina fert & alit.

CALIX eſt vulgò viride floris involucrum.

PETALA ſunt colorata Florum tegumenta.

STAMINA

---

* Obſoleta eſt hæc Opinio, ſed de eadem agitur ad

159———diverſa redit per vaſcula præceps,

Radicemque petit ſucco miſcenda recenti.

Stamina ſunt vaſorum ſpermaticorum vaginæ cylindriformes, ſupernâ ſui parte plerumque ampliata in apices, ſeu folliculos quos Auctor vocat Teſtes.

Ovarium eſt ovi ſeu germinis, nunc unius, nunc multiplicis clauſtrum.

Tuba eſt appendix cylindrica ovariis inſidens, & ſummâ ſui parte vulgò in buccinæ morem patula.

Placenta eſt viſcus glanduloſum ovario proximè ſubſtratum, unde emergunt nunc unus nunc plures canaliculi funium inſtar umbilicalium ſuis ſinguli ovis aut embryonibus diſtribuendi atque inſerendi.

Semen eſt plantæ compendium, ut in cæpis Tuliparum, & quernis Glandibus microſcopia probant.

Radicula ſeminis non differt à radice plantæ, niſi penès molem.

Pluma eſt trunculus vel cauliculus cum ſuis appendicibus.

Mammæ ſunt duo viſcera glanduli-formia ex unâ parte cum radiculâ, ex alterâ verò cum plumâ communicantia, in quibus ſuccus à radice devectus percolatur ac defæcatur, quo aptior alendo fœtui evadat; edito in lucem fœtu transformantur in duo folia inter ſe ſimilia, ſed à foliis poſteà naſcituris diverſa quæ lactentem plantulam alunt; ſed ubi adolevit, & ſuccis ipſa digerendis par eſt, ſpontè decidunt.

FLOS propriè nihil aliud eſt quàm ipſum generationis organum, eſtque vel mas ſtaminibus, vel fœmineus ovariis, vel hermaphroditus utriſque agnoſcendus.

Omnis FLOS vel Calyce deſtitutus eſt, vel veſtitus, undè incompletus eſt, vel completus.

Vel Apetalus, vel Petalodes; hic
Vel Monopetalus, vel Polypetalus,

Uterque vel regularis vel irregularis, vel ſimplex vel compoſitus, hic vel floſculoſus, vel ſemifloſculoſus, vel mixtus ſive radiatus.

HÆC eſſe duxi præmittenda, DIONYSI FRATER, ne quod vocabulum, Botanophilis magis quàm cæteris hominibus familiare, te legentem remoretur: exempla quoque ſuis quæque ſparſim

in locis attuli, ut horis ſubſecivis, (ſi quas tamen tibi faciunt reliquas curæ in quibus jam conſenuiſti Sacerdotales,) ad manum habens, & non ſine quodam ſenſu voluptatis evolvas hæc anniverſaria Dei regnantis argumenta. Non te fugiunt graviſſima rationum momenta, quæ, ſive ex animorum indole deprompta, ſive ex inſitæ hominibus notitiæ fontibus derivata, ſive ex corporum cæleſtium perenni, ſemperque ſibi conſtanti motu, & mirâ Univerſi pulchritudine repetita, ſive ex ſtupendo animalium mechaniſmo deducta, ſive ex Sacrorum Codicum fide accerſita, præteritorumque ſæculorum teſtimonio confirmata, Deum eſſe clamant, & nihil aliud quàm eſſe Deum diu noctuque prædicant. Ego verò Florum etiam artificio & architecturâ tangor, moveorque haud mediocriter: Florum artifex & architectus Deus diu te Patriæ Fratrique ſervet incolumem. Vale.

CONNUBIA FLORUM

D. DE LA CROIX.

CONNUBIA FLORUM.



QUÆ mentis natura foret, quæ fabrica rerum,
Quis-ve opifex primis quæſivi, FRATER, ab annis,
Multus erat dulciſque labor, nec inutile ſenſi,
Carteſiumque patrem & Neutonia caſtra ſecutus,
Menſa remetiri diverſis callibus aſtra.

Hinc adeo Floræ in campos formoſaque regna
Votivum meditatus iter ductore carebam;
Oblatus ſed enim manifeſto munere Divûm,
Ecce Machaonii ſtetit incola maximus Horti

Ante fores Vaillantus, eum Philomela vocabat
Ad nemora, in manibus ſcalpellaque vitraque centum,
Vulcani ſcalpella labor, ſed vitra Minervæ,
Londino data vitra, negatum munus Athenis,
Vitra quibus Phœbi diſcat lux ſparſa coire,
Vitra quibus culicumque oculi, & corpuſcula rerum
Quantulacumque auctâ jubeantur mole videri.
Hoc duce (dextra foret Pallas) divortia Raiis
Invia, Malpigiis noviſſem incognita cultris.

Vix etenim Vaillantum in luminis edidit auras
Flora parens, vix læta infans cunabula circum
Senſit odoratis Zephyros colludere pennis,
Cùm geſtu peteret materna crepundia flores.
Concepit majora Puer, nunc ludus in hortos
Ire ſub Auroram; nunc currere ludus in arva

Luſtrandi

Luftrandi plantas ftudio; juvat ire per imbres,
Per medias juvat ire nives, juvat ire per æftum;
Tantus amor varias florum internofcere gentes!

Carpentem flores obfervantemque per arva
Sæpè virum Dryades ftudiis rivalibus actæ
Optavere fibi, fed vincere digna tulifti
Hoc, Bofonæa, decus, te prætulit omnibus unam:
Floraque Vertumnufque probant, Pomona choreas
Egit, & afpirant Zephyri plaudente fufurro.

Callibus infiftat veterum pede turba fequaci,
Vulgarefque animæ, fervum genus; at fibi ftravit
Intactum Vallantus iter, quâ callidus arte
Dirigat in flores etiam fua tela Cupido,
Vidit, & herbarum detexit primus Amores.

Non olli objiciat livor poſt fata ſuperſtes,
Quòd malè furtivis tentârit fulgere pennis
Gracculus, aut manes violârit fraude ſepultos.

Diſcite, Romulidæ miracula, diſcite Graii.
Urit Amor plantas etiam ſuus; accola florem
Flos amat, inque vicem non dedignandus amatur.
Ollis par ætas, par gens, par gloria formæ,
Par dos, par animus, par didita flamma medullis.

Ergo cupidineas ubi perſenſere ſagittas
Et Procus & Virgo, ſeu ſint communia tecta,
Seu variis habitent diſcreti ſedibus ambo,
Jungit eos Hymenæus, ovat cum matre Cupido.
Aureus interea pennis trepidantibus inter
Papilio laſcivit apes, fit ludus in hortis,

Et carmen geniale canit Philomela ſub ulmo.

Si capiat domus una duos, dat pronuba ſignum
Aurora exoriens. Fila obriguere. Dehiſcunt
Folliculi. Volat aura ferax, tectoque reflexa
Præcipitat perque antra tubæ, perque antra placentæ.
Inde pares ſubiens tubulos vaga diditur ovis,
Ova tument, gaudet flos fœmina prole futurâ:
Hac gravidatur Ophris, gravidatur lege Papaver.

Sin diverſa domus: flos maſculus ante recluſis
Ædibus emittit ſua dona, volatile ſemen
Excipiunt Zephyri, portantque curulibus alis
Conjugis in gremium: Conjux reſpondet amori,
Abſentique probat ſimili ſe prole marito.

Sic adeo Nili felicia littora propter,
Difcretas perhibent connubia jungere Palmas;
At fi menfe fuo, cum floruit utraque fylva,
Non fpirent Zephyri, ramos niger ora Colonus
Afportat quaffatque mares; hinc fœmina turget,
Dactylus, hinc fequitur, non ultima Pæonis arma,
Seu tuffes mulcere feras, & tormina ventris,
Seu velit ad juftos partum deducere menfes.

Sic gravidata viret Coas Terebinthus ad arces
Mille bona in morbos, cùm fylva obvertitur auftris.
Ergo ubi fugit Hyems, ubi Sol revolutus ad Urfam
Erigitur, fpatiifque axem difcriminat æquis,
Mane volant juvenes latifque haftilibus altè
Perfodiunt truncos, de vulnere balfama ftillant,
Balfama, quæ preceps nifi fugerit hora medendi,

Tabemque

Tabemque, ſcrophulaſque abigant, renumque ſaburram.

Exin agricolæ truncos ſub vere recîdunt:
Ni faciant, nimiâ laticum ſub mole laborant,
Innumeræ peſtes, nodi, carieſque ſequuntur,
Et ſitiens moritur malè plenis fontibus arbor.

Non aliter pereunt Homines quos deſide luxu
Inque epulis ſomnoque juvat traducere vitam:
Principio exundant latices. Subit inde ſagina,
Et vix limoſus repit per vaſcula ſanguis;
Clauduntur ſenſim jecoris, renumque, cutiſque
Oſtia, vixque micant nervi torpente cerebro,
It cruor in vappam, nec longum tempus, & ecce
Ægri infelices, medici ni cura reſiſtat
Tempeſtiva, cadunt ceu fulmine, ſenſibus orba,

Mens ſtupet, accerſitque citam mala copia mortem.

Hæc audita mihi, forſan tu viſa requiras:
Eſt Planta inventu facilis, renum oſtia pandit
Succus, & innocuis proritat morſibus alvum:
Olli fœta nitro ſedes placet, inde vetuſtis
Hæret Parietibus, ducitque à Pariete nomen:
Nubilis hæc florum tibi declarabit amores.

Namque alacer primâ ſequerer cùm luce magiſtrum,
Sive Surenæos colles, Momoranciaque arva,
Seu Mauri lucos peteremus, amœnaque prata
Gentilî, aut ſporades quas Matrona circuit undis.
Hoc ſi fortè genus gravior per mœnia ſomnus
Preſſerat, auroræ ſi tardi ad ſpicula flores,
Ille dolos meditans, & longo callidus uſu

Stamina ſollicitabat acu, ſimul illa rigere.
Carceribus ruptis vitæ datur ire per auras
Spiritus, afflari latè ova, & pulveris imber
Marginibus lentus bibulis hærere tubarum.

Exin conceptos utero cupidiſſima fœtus
Mater alit, moriturque lubens, ubi viſa Propago
Grandior, extinctoſque habilis renovare parentes.

Altera deinde parens tellus, ubi lapſa feraci
Semina concepit gremio, ſalibuſque liquatis
Jam laxæ patuere viæ: vagus humor hiantes
Arietat in tubulos, vaſa emollita pateſcunt,
Et ſenſim admittit ſegnes radicula ſuccos;
Illi ægro lenti motu enituntur in altum
Mille per infractus & inenarrabile textum

Ad poſitas utrinque, duo incernicula, mammas.
Inde laborati variis ſe in viſcera plumæ
Ductibus inſinuant, vitamque & pabula ſpargunt.

Parva latet primò, mox eminet herbula, verſis
In folia uberibus, cœloque exultat aperto.

Quiſquis amas flores, cave, barbara dextra trucidet
Hæc folia ante diem, nutricibus orba periret
Herbula, & incaſſum ſperet ſibi ſerta colonus.

Interea Pluviæ, Rores, Zephyrique ſecundi
Surgere dant teneram ſtudiis certantibus herbam.
Intima ſunt Pluviæ, ſunt extima Balnea Rores,
Terra bibit pluvias, illæ radicibus imis
Exceptæ in truncum ramoſaque brachia portant

Aërios

Aërios latices, Cœlique volatile nitrum
Illapſi per cæca cutis ſpiracula Rores
Dant ſuccis animos, & vaſa rigentia laxant.
Mille modis dociles laſcivo flamine ramos
Exercent Zephyri, quo fibræ legibus æquis
Accipiant vitam, & tranſpiret innutilis humor.

Ac veluti, quoties ſpirarum amplexibus arctis
Porrigitur, ſummâque imam cor parte refugit,
Sanguineum elidens amnem vomit, ille repentè,
Quà fuga, dives opum ruit: oſcillantia vaſa
Torrentem, ſciſſo de gurgite vaſcula rivos
Accipiunt truduntque, it cunctos vita per artus.
Aſt ubi purpureus languet Mæander, eundo
Factus inops, redit in gyrum, cordique premendus
Redditur, inde cibis expreſſo lacte reflectus

Vitales

Vitales renovat pede liberiore choreas.

Haud aliter ſuccos ut hiansque premensque viciſſim
Vere novo bibulis hauſit radicibus arbor,
Fit via vi, tortis per viſcera callibus humor
Tollitur in ſublime, fluentes undique rivi
Truncum animant, ramosque avidos, frondesque bibaces;
At pars quæ ſaturis neſcit coaleſcere fibris,
Quæque nequit luctans exire per oſtia libri,
Extrorsùm diverſa redit par vaſcula præceps,
Radicemque petit ſucco miſcenda recenti.

Dat Sol dat ſtimulos, motum inchoat, adjuvat, auget,
Namque calens arctis fruticum in pulmonibus aër
Æſtuat, & rapitur ſpatia in majora; premuntur
Cum tubulis latices, preſſique hac arte docentur

Haud interruptos deſcribere curſibus orbes.

Eſt ubi prætereà tingit ſua purpura ſuccos,
Itque cruor noſtro ſimilis, qui Caſpia ſulcant
Æquora, ſive legant ſpumoſa Boriſthenis ora,
Sive petant Aſiam velis, & Colchica regna.
Hinc atque inde ſtupent viſu mirabile Monſtrum.
Surgit humo * Borames. Præcelſo in ſtipite Fructus
Stat Quadrupes. Olli Vellus. Duo cornua Fronte
Lanea, nec deſunt Oculi, rudis Accola credit
Eſſe Animal, dormire die, vigilare per umbram,
Et circùm exeſis paſci radicitùs herbis:
Carnibus Ambroſiæ ſapor eſt, ſuccique rubentes,

* Agnus Scythicus.

Poſthabeat quibus alma ſuum Burgundia Nectar;
Atque loco ſi ferre pedem Natura dediſſet,
Balatu ſi poſſet opem inplorare, voracis
Ora Lupi contrà, credas in ſtirpe ſedere
Agnum equitem, gregibuſque Agnorum albeſcere colles.

Hoc è fonte fluit, me judice, fabula Graium;
Hæc olim æripedes Tauri, vigileſque Dracones
Vellera ſervavere, hac ibat dote per undas
Medea, his viſus renovari fructibus Æſon,
Et ſucco præſente Senex revocaſſe Juventam.

Non hæc ſola probant ſimiles Animalibus herbas,
Aſpicis ut nullâ Stratiotes ſede moretur,
Nilum amat, & nando ſibi pabula quærit in undis.
Tacta levi digito Mimoſa repentè refugit,

Contrahitur trepida, & flexis ſe frondibus abdit,
Sublato mox illa metu Soli éxplicat alas.

Eſt flos dictus Amor, nec rem levis aſſerit Auctor,
Intra Anni Soliſque vias, nec maximus Atlas
Hæc loca, nec viridis ſylvarum objectus obumbrat;
Formoſo rubet ore pudor, ſed peſſimus Afer
Nutanti placidos Phœbœi ad ſyderis ignes
Objiciat ſi fortè dolos impuraque fata,
Barbaricam intendens vocem, iſtius inſcia culpæ
It virgo in furias, ſciſſi jacuere capilli,
Vitaque ſancta fugit probrum indignata ſub auras.

Sed quid ego peregrina ſequor, cùm Gallia nutrix
Prodigium majus vati offerat, eja age, Muſa
Hîc animis opus, hîc deceat te fundere carmen,

Quale dapes inter velit ipſe ſonare Garumna,
Quale ſonant Angli, Batavi poſt dona Garumnæ;
Quà ſtrepit, ac tumido ſe volvit Heraltius amne,
Leſperus aſſurgit Floræ ſacer, hîc Dea primum
Induitur vernam Clamydem, de more quotannis
Huc ducit Medicina ſuos viſura ſororem
Diva Deam, hîc Hebe legit aurea ſerta Tonanti,
Improbus at ſonipes ferrato ſi pede ſacris
Audeat inſultare jugis, hoſtem herba petulcum
Impetit, auxilio veniunt hinc inde Sorores;
Nec mora, nec requies, ſtetit ungula donec inermis.

Non tamen in plantis mihi quiſquam ſuadeat Auctor
Eſſe Animam Senſumque, Homini data munera ſoli;
Herba, Frutex, Arbor, nihil eſt niſi Machina, textum
Eſt varium variis, eſt admirabile cunctis,

Vafra

Vafra canaliculis junxit Natura canales.
Pars rectum fibi legit iter, pars tramite curvo
Mille per ambages nunc huc, nunc flectitur illuc,
Infima, fumma petens, plantamque obliqua pererrat;
Mille laborati per vafa regentia prelis
Hîc rapido furgunt, alibi lento agmine fucci.

Adde Poteftates varias Cœlique Solique
Et Lymphæ nutricis opes, quæque Ætheris alti
Fornice denfa cadit, quæque intra vifcera Terræ
Fœcundos prædata fales, medicata fodinis,
Tollitur in fontes, & eundo repit in herbas.

Dives Abyffino defcendens vertice Nilus
Gurgitibus rapidis limumque natrumque volutat,
Spem fufci Agricolæ. Stratiotes remige fluctu

Defluit, atque vagis potat radicibus amnem ;
Inde alitur, Sobolemque creat natalibus undis
Gratus ubique Hofpes, caufarum hinc nefcia verum,
Credidit effe Animal motu fallente vetuftas :
Remigio tali vifæ quandoque paludes
Sedibus exiliiffe fuis, perque arva moveri.

Momoniæ in pratis Limerici mœnia propter
Impete præcipiti latrantum fubter aquarum,
Sive falo venere, ruant fub montibus altis,
Eruta deferuit dominum, pontoque tetendit
Infula. Tantalides arfit poffeffor in iras,
Confequitur fugientem, & juffa eft dicere caufam,
Sed Dublinæo vicit fugitiva Senatu.

Audomarum contra fic nant Delphinia Contis

Ambæ

Ambæ ceſpitibus præſignes, frontibus ambæ,
Seque errabundæ ſociant per ſtagna Sorori.

Mimoſæ labor eſt Naturam aperire latentem,
Sed tentare juvat; Muſæ, aſpirate canenti,
Articulis diſtincta ſuis gerit omnia Membra
Sic trunco radix divinâ nectitur arte,
Sic ramis truncus, ſic rami frondibus hærent;
Mobilibus ſtupeas nexa internodia fibris.
Ergo inclinato cùm nutant poplite rami,
Quà partes junctura ligat procedere ſuccos
Vaſa velant conſtricta, hinc ægra it vita per artus,
Semianimesque ſuo procumbunt pondere frondes,
Aſt aër tubulis frænum indignatus in arctis,
Et vires ſuccorum objecta repagula vincunt,
Mimoſæ redeunt Animi, collapſa reſurgit

Lætior, & victrix plaudentia ſuſpicit Aſtra.

Nec te Gætuli fallant miracula floris,
Obvia cauſa: nigris ubi Delius imminet Afris,
Terra ſitit, lentus foliorum evanuit humor,
Vixque ſuis hæret compages arida vinclis;
Vociferans tonat Afer, it impete concitus aër,
Impulſu ceſſere retrò ramique comæque,
Dum redeunt, ſonus ingeminat, certatur utrinque,
Vis quatit hinc major, minor obſtitit inde, fatiſcunt
Stamina fibrarum, & traxere ſoluta ruinam.

Sic tonuit furiale ruens Vulcanus ab Arcto,
Anglus ubi ignitis obſedit claſſibus arces
Maclovias, tremuere undæ, concuſſa domorum
Fundamenta, imo caput abdidit æquore Nereus.

Sic,

Sic, Picarda phalanx ubi per dejecta Namurci
Mænia vicit iter, clangore repentè tubarum
Audito pallere hoſtes, trepidare feneſtræ,
Vitra ſono cecidere. Manu jacuere Sicambri.

Accipe Leſperio quæ ſit vis inſita monti.
Flant geminæ adverſis Cæli de finibus Auræ;
Hæc petit Aura Notos, ſeptem petit illa Triones,
Particulæ tortæ in ſpiras, ſed diſpare flexu,
Hæ verſæ in Zephyros, illæ vertuntur in Eurum,
Quæque tribus ſignata ſtriis. Stat pandere cauſam,
Linquamus Terras humiles, juvat ire per Aſtra.
Sunt Stellæ totidem Soles, lucentque calentque,
Bullit Stella, vomit fluvios, hi vorticis oras
Tranſiliere, Poloſque adverſi turbinis intrant.
Segnius aërios percurrunt Fulgura tractus.

At dum per globulos Axem quà pigrior Æther
Unda legit, mediumque laborat tangere Solem,
Languidior curſu, & defeſſa ambage viarum,
Amiſit paulatim Animos, mox cogitur, inde
Vel gluten poſſit liquefactave cera videri.
Intereà globuli per clauſtra triangula gluten
Segnius admiſſum radiis ſculptoribus usque
Tres tribus obſignare ſtriis, ac tramite recto
Detorquere ſequax, & eundo fingere ſpiras,
At ſpirent Venti licèt in contraria, diſcors
Frater amat Fratrem, inque uſus conſpirat eoſdem.

Illi adeo cùm luce ſuâ ſpoliata doleret
Terra parens, pulloque recens ſqualleret amictu,
Dum maculæ flecti dociles & cerea cruſta,
Affines ſibi quisque vias fecere per Axem,

Et rectis fugerent æternùm callibus ambo,
Ni densæ obstarent Nebulæ, vel crassior Aër,
Vel contrà veniens fessam Aura repelleret Auram.
Ergo acti in gyros per Terras, Æquora, Cœlum
Tellurisque Polum repetunt quem quisque petivit
Advena mox relegunt vestigia, fingitur ille
Inventum Francorum & Nautæ regula vortex.

At dum lassa redit variis erroribus Aura,
Si via liberior chalybum occurrere fodinæ,
Magnetum-ve strues, vel planta his fæta, vel illis,
Huc detorta ruit, calles exorsa priores.

Lespere, plaude tibi, dant hæc tibi flamina Nomen,
Nam celeri pede cùm ferri subiere fodinas,
Continuò fugiunt quà per spiracula montis

Evehitur fugiens chalybum Vapor, inde per herbas
Didita vorticulos illecta meatibus aptis
Fingere amant, quales Templorum in Turribus altis
Acquirit longo Crux ferrea tempore, quales
Affrictu Magnes acubus dat habere marinis.

Inclytus haud aliis bellatur Leſperus armis,
Quippe ubi ferratis violatur calcibus, ecce
Vorticuli totis connixi viribus omnes
Irruere in chalybem, diſcedere protinùs Aër
Fornicis in morem, at quà nectitur ungula ferro,
Ponè latens Aër reſilit jam liber habenis,
Arietat in chalybem valido impete, nec mora clavos
Trudit equo mirante, refixaque decutit arma;
Usque adeò miris ſtant Corpora nexa catenis
Omnia, ſic Opifex voluit qui Sydera, Terras

Connubio ſtabili florum de more maritat.

Nunc florum ſexus quæ monſtrent ſigna docebo,
Forſitan hæc, Frater, tibi ſunt placitura legenti.
Servat ubique ſuum conſtans Natura tenorem,
Omnia quæ Prolem generant, genus omne virile,
Fæmineum genus omne ſuos armantur in uſus.
Ergo etiam & Plantæ gaudent genitalibus armis,
Et ſunt omnigeni totidem genitalia flores.

Sed Petala & Calyces florum non dignor honore,
Quidquid in adverſum vulgus crepat, ecce paluſtris
Nuda Typha eſt Petalis, ea Tegmina Fraxine ſpernis,
Graminaque, Triticumque, & equorum robur Avenæ,
Oderunt Betæ Calyces, odere Tulipæ,
Liliaque, & grave-olens Atriplex, capitisque Veratrum

Perniciès, pulchrumque rubens Amarantus in hortis,
Et plures, ſudo quàm ſuſpicis Æthere Stellas.

Si varios igitur Flores expendere geſtis,
Vel ſola occurrent abeuntia ſtamina teſtes
Sæpiùs in geminos, vel ſola ovaria cernas
Enatis ſuppoſta tubis, impoſta placentis,
Aut ambo juncta invenies: filamina geſtat
Cannabis hæc florens, ovaria Cannabis illa,
At ſociata ferunt Jaſminum, Althæa, Roſæque:
Nunquam ego ſtamineos vidi ſoboleſcere flores,
Poſt Venerem exhalant Animas, exinde domorum
Fornicibus mœſtis exanguia Corpora pendent,
Aut per agros paſſim volitant ludibria ventis.
At vidua extinctos renovant ovaria Patres,
Inde genus redivivum, hinc ſurgit poſthuma Proles;

Si tamen ante diem, ſi tædas ante jugales
Caſtaneæ (miſerum) ſuccîdat ſtamina quiſquam,
Stamina diſcretis ſemper naſcentia ramis,
Accola connubii ſpe luſa abſumptaque luctu
Tabuit, ac ſterilis moritur, ni fortè remoti
Detulerit Ventus grvaidantem conjugis Auram.

Sæpè hæc errantes ignota per Æquora Nautas
Aura regit, Portusque jubet ſperare propinquos.

Ibant Hiſpani velis audacibus ultrà
Herculeas longè Metas, Solemque cadentem,
Hortator Columba viæ; dat claſſibus Euros
Æolus, & lætis prælucent ignibus Aſtra.
Mirantur ſummo gradientes Æquore Sylvas
Dorides Occiduæ, mirantur Puppibus altis

Diſpoſitas ad pugnam acies, fluitantia Signa,
Æraque cum tonitru jaculantia faucibus ignes.
Ecce autem plenos Phœbe jam ſeptima vultus
Induerat, poſuitque; Ceres conſumpta, Lyæi
Munera defecere: incaſsùm ſuſpicit aſtra,
Deſpectat Palinurus Acum, Cœlum, Æquor ubique.
Protinus in furias agitur cum Remige Miles,
Ductoremque, nefas! malo alligat: ille Minervâ
Plenus ait, ſenſi Flores, contendite remis,
In manibus Terræ. Volat Æquore concita Claſſis.
Apparere procul Montes, aſſurgere Campi;
Vix portum tetigere rates, dat Flora Corollas,
Columbamque ſuum donis gemmantibus ornat.
Hinc adeo Floræ de nomine Florida mittit
Suave-olens Saſaphras, parat hinc quandoque liquorem
Nectareum, præfertque epulis Cytherea Deorum.

Sed

Sed mihi digreſſæ redeant ad penſa Camœnæ.

Ergo fœmineus Flos eſt, vel maſculus omnis,
Vel genus hinc mixtum. Si quandò apparet in Hortis,
Luxurie Petalorum, & odoro inſignis amictu,
Quem neque Fœmineis Maribusque, nec Hermaphroditis
Annumerare queas Florem, de gente Spadonum eſt,
Vel Monſtrum infelix, Naturæ devius error,
Malvarum ſæpè eſt, ſæpè eſt Fortuna Roſarum;
Nam dum omnes rapiunt Petala inſidiantia ſuccos,
Stamina degenerant formas oblita priores.
Embryo vitali fraudatus Nectare, ſenſim
Langueſcit moriens, ſequiturque heu! floris Abortus.

At ſatis haud fuerit florum diſtinguere Sexus,
Addere cuique ſuper ſignum gentile memento.

His adſunt Calyces, ollis Natura negavit:
Hic picturatis non curat in Ædibus ævum
Ducere, dum Zephyris ſe proluat, ille coruſcans
Ambroſiæque ſatur, natali vivit in Aulâ
Quæ vincat candore nives, præfulgeat oſtro,
Rivalem jubeat ſe condere nubibus Irin.

Eſt genus haud ſimili ingenio, non audeat Aſtris
Ferre caput, vitæ metuens, ni providus Auctor
Et Petala & Calyces duo dædala tecta dediſſet,
Ad frigus nimium, nimios munimen ad æſtus.
Hac de gente Phalanx ſurgit numeroſa, ſed omnes
Eminet una ſuper, mœſtiſſima * Granadilla.

Te,

* Flos Paſſionis.

Te, Frater, te novi etenim, Flos ille movebit:
Ut vidi, ut ſtupui! medio ſtat flore Columna
Neſcio quid ferale minans, in vertice Clavi:
Malleus haud longè pendet crudelis in ictum:
Texta velut ſpinis parte inferiore Corona
Se ſe oculis offert tricolor, tabumque, cruorque
Et livens pallor Lethi propioris Imago:
Tum mihi ſacrilegas Solymæ inſultantis ad Arces
Siſtitur infami pendens Deus hoſtia ligno,
Unius ob noxam, furiasque rebellis Adami.

Indicat & varias Petalorum Copia gentes.
Se gens hæc uno veſtit, ſe pluribus illa.
Aſpice quos habeant vultus Boheravia, Malva,
Nec Petalis idem locus eſt: pars margine ſumma
Incluſi floris medium complectitur Axem.

Hæc vos ſorma juvat Crambe, Campanula Thlapſi;
Pars abnorme genus, diſcordem nacta figuram,
Hinc à flore minùs, magis exlex inde recedit,
Et circum diffuſa tubas ac ſtamina vallat.
Salvia ſic Medicis, livent aconita Novercis;
Aſt alia in centro rutilum ſortita cubile
Acclines tergo geſtant teſtesque tubasque.
Sic floret pratis gaviſa paluſtribus Iris,
Hydropas contra & tuſſes medicamen anhelas;
Ter vidi has peſtes; ægro ter profuit Iris.

Hactenùs explicitus flos eſt mihi carmine ſimplex,
Nunc tibi compoſitos perſtringam ex ordine flores,
Namque ſui totidem Calyces ſi millibus adſunt,
Mille etiam denſi Calyce involvuntur eodem:
Gens brevibus contexta tubis glomeratur in orbem

Spinoſæ

Spinoſæ in morem Cynaræ. Gens ora biformis
Cichoreum dixere: humiles flos quilibet imâ
Parte refert tubulos, ſed plana vel aſpera ſulcis
Lingula fit ſuper; hæc extat, vel recta, recurva-ve,
Exerto nunc dente minax, nunc ſecta profundùm;
At geminam hanc radians gentem complectitur Aſter,
Sacraque virginibus Caltha, & tua Phœbe Corona,

His ſuper arrepto monſtrabat tempore Ductor
Quæ Calyces ſtructura juvet, quæ forma Placentas,
Quæ placeant foliis, cauli, radicibus, ora:
Ordine quo ſurgunt flores, quo ſemina ritu
Pluraque divino vix enarranda Maroni.
Hinc adeò longos habuit Fagonis amores
Regum qui Medicos tantum ſuperaverat omnes,
Laurigero quantum Lodoicus vèrtice Reges.

Hinc ſocium adſcivit cupidis Academia votis,
Illius hinc magnum volitavit fama per orbem.

Vidi ego floriferos Spectacula rara per agros,
Mille aderant Medici variis è finibus orbis,
Quique Iſtrum, Tanaimque bibunt, Tameſimque Tagumque,
Et miſti Suecis Itali, Erigenæque frequentes,
Acre genus bello, ſtudiis genus acre Minervæ,
Devotumque mori pro Rege fideque tuendis.
Exultant primam ante aciem, & ſua Lilia quaſſant
Dilecti Phœbo juvenes, quos alma creavit
Gallia, perfugium exilii & ſpes ultima Regum.
Addiderant comites ſe Graia quot agmina caſtris
Bellantur Medicina tuis, vectique per undas
Peruvii, veniensque plagis Armenus Eoïs.

Sed

Sed nihil, heu nihil eſt ex omni parte beatum.
Ecce manus tonſtrix, vacuis emiſſa tabernis,
Ponè ſequebatur, ſed mente haud itur eâdem.
Imus diſcendi ſtudio, Turba illa canendi,
Aut importunis rumpit garritibus aures.

Quis concurſus io? Regem ſic undique circùm
Cum fucis glomerantur apes, ubi Vere recenti
Signa canunt, atque ille petit convivia Floræ.
Agmina convenere. Locum docet. Imus in arva,
Tum Dux oblato ſubſiſtens flore profatur
Deſignans genera Herbarum Viresque medendi.
Pendebant ipſi dicentis ab ore Sherardi,
Sequana converſis curſum oblivifcitur undis,
Miratæ ſteterant Dryades, ſtupet ipſa Diana;
Namque docebat uti tenerâ ſub origine mundi

Semina plantarum compendia ſinxerit Autor
Lux ſua, lexque Deus; concepit germina Tellus
Virgo ſinu, creſcunt Fœtus, & tempore juſſo
Flos hic erigitur, flos pullulat ille ſub Auras;
Hoſpitibus lætata novis dat Cynthia lucem
Clarior, attonito dat lætior Æthere Titan;
Sparſerat ova Deus, ſed in ovis abdidit intùs
Ovula mortales longè fugientia viſus,
Ovula quot pelago Doris, quot Naias in undis,
Quot Dryas in ſylvis, quot Oreades atque Napeæ,
Quotque Ceres Campis, & quot Pomona per Hortos,
Hac aluere tenùs, vel alent per Sæcula Plantas:
Omnibus indiderat vires ad Commoda Vitæ.
His Morbi ceſſere, Dapes ornantur ab illis;
Agnoſcas in utrisque Deum. At quid ſciſſa Coronam
Flora gemit, Nymphæque ululant? Vaillante, periſti!

Floribus eripitur ſuus Œdipus, heu! brevis ævi.
Non ego, non poſthac lateri comes additus, arva
Te duce luſtrabo, non erudiente docebor,
Non ſpoliis Nemorum dives ſub Nocte redibo.
Hei mihi credideram fore te quo ſoſpite lucem
Æternam acciperet florum Dea, quo duce ferret
Audaces ſecura gradus Medicina per orbem,
Præcipitisque fugam vitæ tardaret in ævum.

Ille quidem moriens, Cœloque intentus, amatum
Ante alios florem, & Mortis, quâ vivimus omnes,
Luſtralis ſpecimen, te, Granadilla, tenebat
Deficiente manu, te pallida labra petebant,
Errantesque oculi, te proſiliente rigabat
Imbre pio lachrymarum, expiravitque rigando.

Plectra manu cecidere, hîc poſcit Epiſtola finem ;
Altera quam meditor, Fratrum optime, plura docebit.

NOTÆ

NOTÆ & OBSERVATIONES.

NOTÆ & OBSERVATIONES.

1. *QUÆ mentis natura foret, quæ fabrica rerum,*

Hujuſce Poematis maxima Pars extat in Præfatione Vaillanti Botan. Pariſis, quod mecum communicavit eruditiſſimus T. Velley, et, quod mirari reſtat, ſub nomine Mac' En Croix. Epigrammata D. de la Croix ſequuntur, quæ memoravi. Vaillanti Botan. Pariſis. prodiit Londin. 1723, Connubia Florum Pariſis. 1728, ſed utrum Mac' En Croix fraternis Coloribus ſplendere voluit, vel D. de la Croix Fratris opuſculum auxit, et de novo refinxit dubitare admodum licet. Sic equidem Res ſe habet; de ea judicet Lector.—

Non noſtrum———tantas componere lites.

Virg.

10. ——— *Vaillantus,*

Sebaſtianus Vaillantus cujus Botan. Paris. prodit Londin. 1723.

1723, et Diſſertatio de Structura Florum, quam Anno 1717 ex Cathedra dedit, latine reddita Lug. Bat. 1728.

17. ——————— *Raiis*

Egregius noſter Nat. Hiſtoriæ Scriptor, quem nec Sciolus Botanicus ignorat. Epitaphio ſequente haud male tuentur talis Animæ Virtutes.

Eruditiſſimi Viri JOHANNIS RAII, M. A.

Quicquid mortale fuit

Hoc in anguſto Tumulo reconditum eſt,

At ſcripta

Non unica continet Regio:

Et Fama undiquaque celeberrima

Vetat mori.

Collegii SS. Trinitatis Cantab. fuit olim Socius,

Nec non Societatis Regiæ apud Londinenſes Sodalis.

Egregium utriusque Ornamentum.

In omni Scientiarum Genere,

Tam divinarum quam humanarum

Verſatiſſimus:

Et

Et ſicut alter Solomon (cui forſan unico ſecundus)
A Cedro ad Hyſſopum,
Ab Animalium maximis ad minima usque Inſecta
Exquiſitam nactus eſt Notitiam.
Nec de ſtantis ſolum quæ patet Terræ Facie,
Accuratiſſime diſſeruit,
Sed et intima ipſius Viſcera ſagaciſſime rimatus,
Quicquid notatu dignum in Univerſi Natura
Deſcripſit.
Apud exteras Gentes agens,
Quæ aliorum Oculis fugerant, diligenter exploravit,
Multaque ſcitu digniſſima primus in Lucem protulit.
Quod ſupereſt, ea Morum Simplicitate præditus,
Ut fuerit absque Invidia doctus:
Sublimis Ingenii,
Et (quod raro accidit) demiſſi ſimul Animi et modeſti.
Non ſanguine et Genere inſignis,
Sed (quod majus)
Propria Virtute illuſtris.
De Opibus Titulisque obtinendis

 Parum

Parum ſolicitus,
Hæc potius mereri voluit, quam adipiſci:
Dum ſub privato Lare ſua Sorte contentus,
Fortuna lautiori dignus conſenuit.
In rebus aliis ſibi Modum facile impoſuit,
In Studiis nullum.
Quid plura?
Hiſce omnibus
Pietatem minime fucatam adjunxit,
Eccleſiæ Anglicanæ
(Id quod ſupremo Habitu confirmavit)
Totus et ex Animo addictus,
Sic bene latuit, bene vixit Vir beatus,
Quem præſens Ætas colit, Poſtera mirabitur.
Nat. 29. Nov. 1628. Ob. 17. Jan. 1705-6.

18. ——*Malpigiis.*

Marcellus Malphigi, ſummus prioris Sæculi Medicus, et Anatom. Scient. Profeſſor. Natus eſt 10. Mart. 1628, obiit 29 Nov-

29 Novem. 1694. Ejus opera extant Londin. 1697. amplius et accuratius Amſtel. 1698.

25. ———*juvat ire per imbres,*
Per medias juvat ire nives, juvat ire per Æſtum.
———juvat ire per alta
Aſtra, juvat terris & inerti ſede relictis
Nube vehi :

Ovidii. Metam. XV. 147.

38. ——*herbarum detexit primus amores.*

In Animalibus alios Mares exſtitere, alias Feminas, ac per amborum conjunctionem ſobolem creari nemo dubitavit, ſed in Vegetabilibus nullus ante Vaillantum Sexum Plantarum ita habuit certe cognitum, ut utriusque Sexus Flores ad ſemina procreanda abſolute requiri pronunciare auſus ſit.

Wolff de Filicum Seminibus.
Sec. IV. Jenæ. 1770.

De Plantarum Sexus prima Inventione haud levis movetur Quæſtio. " Exacte dicere quis primus Plantarum Sex-

um invenerit, res effet Difficultatis maximæ, nullius Ufus. Pleraque enim inventa per gradus fenfim excrevere, non aliter ac Flumina, quæ parvis orta e rivulis, pluribus fenfim additis magis magisque adaugentur, navibusque etiam ferendis apta evadunt. Veteres Palmarum, Ficuum, Piftachiarum, cultores hoc fciviffe negari nequiit, certe quantum ad has ipfas Arbores attinet, in quibus Flores mafculi fupra fæmineos fufpendendi femper erant, fi quis fructus obtineretur. Nec minus vetuftiffimos Scriptores Sexus Plantarum diferte mentionem facere conftat. Sed quam parum tamen folidi cognitio illorum habuerit, quamque lubrico innixa erat fundamento, inde patet, quod mares, et fæminas feparatas fæpe docuerint, ubi non erant. Immo poft reformatas literas, et fuperiori etiam Sæculo priftinæ Ignorantiæ adeo inhæferunt Botanici, ut fummi artis Doctores fexum diftincturi perfæpe marem vocarint plantam quæ fæmina erat, quo certius infcitiæ documentum hac in re dare nequiverunt.——Angli Millingtonum fuum primum verum inventorem doctrinæ hujus fuiffe tradunt, fi modo inventorem appellare licet eum, qui aliquod perfpexerit

fed

ſed publico ſcripto non docuerit.* Hunc circa annum 1676. rem totam jam pervidiſſe contendunt, et revera paulo poſt illum Grewio, et Raio, utrique Anglo, pluraque aperta fuiſſe patet. Rud. Jac. Camerarius† et alii* permulta explicuerunt, nemo autem melius Vaillanto, magno illo Gallórum Botanico, qui Oratione Academica a Boerhaavio

* The primary and chief Uſe of the Attire is ſuch, as hath reſpect to the Plant itſelf: and ſo appears to be very great and neceſſary. Becauſe, even thoſe Plants which have no Flower or Foliature, are yet ſome way or other attired; either with the Seminiform, or the Florid Attire. So that it ſeems to perſorm its Service to the Seed, as the Foliature to the Fruit.

In diſcourſe hereof with our learned Savilian Profeſſor Sir Thomas Millington, he told me, that he conceived the Attire doth ſerve, as the Male for the Generation of the Seed.—I immediately replied, that I was of the ſame Opinion; and gave him ſome Reaſons for it, and anſwered ſome Objections, which might oppoſe them. But withal, in regard every Plant is ἀῤῥενόθηλυς, or Male and Female; that I was alſo of Opinion, that it ſerveth for the Separation of ſome Parts, as well as the Affuſion of others.

Grew. Anatomy of Flowers, B. IV. C. 5. P. 171.

† Epiſt. de Sexu Plantarum. 12mo. Tubingæ 1695.

* Inter alios vide Bourkard. Epiſt. ad Leibnitz, qui ſexualium organorum Structuram et Uſum fuſe expoſuit 1702.

edita, ſe rem accurate noviſſe oſtendit, quamvis argumentis eam non demonſtraverit.—Ab illo tempore id vero eſt ab Anno 1718, multi hoc ſaxum volvere agreſſi ſunt, imprimis autem Syſtematis Sexualis auctor, variis operibus apertam et jam tranſactam rem ratus eſt, licet eam refutare Pontedera* tentaverit, et recentiſſime etiam Alſton† riſerit.

Car. Linn. Diſquiſitio de plantarum Sexu ab Acad. Imp. Scient. Petropol. præmio ornata 1760.

43. *Urit*

* Anthologia. Patavıæ Quarto, 1720.

† Tirocinium Botanicum. Edin. Octavo, 1753.—It contains a Republication of his Index firſt printed 1741, to which he now added the Fundamenta Botanica of Linnæus. But the Bulk of the Work is a profeſſed Attempt to explode the Syſtem of the Swede and particularly to invalidate all his Arguments for the Sex of Plants. This Part of it was tranſlated by himſelf, and publiſhed the next Year in the firſt Vol. of Eſſays and Obſervations Phyſical and Literary, 8vo. Could the Doctrine of the Sexes of Plants have been eaſily ſhaken, the Learning and Abilities of Alſton were ſufficient to have affected his Purpoſe. But as it was not at that Time ſupported by Hypotheſis alone, ſo it has ſince gained additional Strength by new Experiments and ſound Inductions reſulting from them. Nurtured from his early Youth in the Syſtem of Tournefort, Ray and Boerhaave, to the firſt of which he had even given Improvements, it is not ſtrange that at an advanced Age Dr. Alſton re-

43. *Urit amor plantas etiam ſuus; accola florem*
Flos amat, inque vicem non dedignandus amatur.

Vivunt in Venerem Frondes, omnisque viciſſim
Felix Arbor amat, nutant ad mutua Palmæ
Fædera: populeo ſuſpirat Populus ictu:
Et Platani Platanis, Alnoque adſibilat Alnus.

Claudian. de Nupt. Non. & Marcell. 75.
P. 177. Ed. Burmanni 4to. 1760.

Nec ineleganter IOVIANUS PONTANUS.

Brunduſii latis longe viret ardua terris
Arbor, Idumæis usque petita locis.
Altera Hydruntinis in Saltibus æmula Palma
Illa virum referens, hæc muliebre Decus
Non uno crevere Solo, diſtantibus Agris
Nulla loci Facies, nec ſocialis Amor.
Permanſit ſine Prole diu, ſine fructibus Arbor,

Utraque,

jected a Syſtem of ſo much Novelty, as that of Linnæus preſented. We do not willingly unlearn at Sixty what has been cheriſhed from our earlieſt Youth.

Pulteney Hiſt. of Botany 2. 12. 8vo. Lond. 1790.

Utraque, frondofis et fine fruge comis.
Aſt poſtquam patulos fuderunt Brachia ramos,
Cœpere et Cœlo liberiore frui,
Frondoſique Apices ſe conſpexere, Virique
Illa ſui Vultus, Conjugis ille ſuæ,
Hauſere et blandum venis ſitientibus ignem,
Optatos Fætus ſponte tulere ſua.
Ornarunt Ramos gemmis (mirabile dictu)
Implevere ſuos melle liquente favos.

De Palma Bitontina & Hydruntina. Eridanorum. Lib. 1. P. 117. Ed. Ald. 12mo. 1518.

Ὁ δε φοῖνιξ ἐρᾷ, και δριμέως, ἑτέρου φοίνικος, ὡς Φλωρεντῖνος ἐν τοῖς Γεωργικοῖς αὐτοῦ φησὶ, καὶ οὐ προτερον παύσεται τοῦ πόθου, ἕως ἂν αὐτὴν ὁ ἐρώμενος παραμυθήσαιτο. ἔστι γαρ ἰδεῖν τὸ δένδρον ἐπικεκαμμένον καὶ μὴ φέρον τὴν ἰδίαν βάσιν, μηδὲ καρποφορεῖν. τοῦτο οὐ λανθάνει τον γεωργὸν, ἀλλ' ὅτι μὲν ἐρᾷ καὶ ἐρᾶται τεκμαίρεται, ἀγνοεῖ δὲ ποίου· διὰ παραπτόμενος φοινίκων, πολλῶν, καὶ πάλιν ἐπὶ τὴν ἐρῶσα ἐπανιὼν, και ἐφαπτόμενος τῇ χειρὶ, δοκεῖ φιλήματι ὥσπερ διακονεῖν. ποίου δε φοίνικός ἐστι αὐτῇ

πόθος

πόθος σημαίνει τρόπον τινὰ τῇ τῶν παθῶν καὶ τῇ τῶν χειρῶν, ὡς ἂν τὶς εἴποι, νεύσει, πρὸς ἐκεῖνον γὰρ ἀποβλέπει, καὶ ἐπ' ἐκεῖνον πρόῤῥιζος ὥσπερ σπεύδουσα ἑαυτὴν ἐπιῤῥίπτει ἄκος οὖν γίνεται τῇ ἐρώσῃ, τοῦ γεωργοῦ συνεχῶς ἁπτομένου τοῦ ἄῤῥενος, καὶ τὰς χεῖρας αὐτοῦ προσπελάζοντος τῇ ἐρωμένῃ· μάλιστα εἰ τὴν ἄνθην ἐξελὼν ἀπὸ τῆς σπάθης τοῦ ἄῤῥενος, ἐνθήσει εἰς τὴν κεφαλὴν τῆς ἐρώσης. οὕτω γὰρ πραΰνει τὸν ἔρωτα, καὶ λοιπὸν ἡ φοῖνιξ ἀγλαϊζομένη κάλλιστον καρπὸν οἴσει.

Cæterum palma ipſa amat, & quidem ardenter, alteram palmam, velut Florentinus in Georgicis ſuis tradit, neque prius extinguitur amor, quam ipſam dilectus conſoletur. Videre enim eſt ipſam arborem incurvatam, & non ferentem proprium firmamentum, neque fructum producentem. Atqui hoc ipſum agricolam non latet, novit enim quod amet, quam vero amet ignorat: quapropter multas palmas contingens, rurſusque ad amantem rediens, eamque manu attingens, quaſi oſculo mutuo miniſtrare videtur. Quam vero palmam amet, affectionum &, ſi ita dicere liceat, ma-

nuum

nuum nutu aliquo modo ſignificat, ad illam enim reſpicit, & in illam radicibus extentis ſe amanter injicit, eamque quaſi amplectitur. Medela igitur amori adhibetur, ſi agricola frequenter maſculam contingat, & manus ſuas amanti admoveat: maxime ſi flores de palmite maſculæ ademptos in caput amantis imponat. Hoc enim modo amorem mitigat, & palma ipſa gaudens de cætero optimum fructum feret.

Geoponic. Lib. x. C. 4.

Vid. Baſilium Hom. v. Philoſtratum Icon. L. 1. in Ἑλη. Theophyl. Sim. Ep. 18. & in Ἀπορίαις φυσικαῖς Quæſt.

Περὶ δέ τῶν φυτῶν λέγουσι παῖδες σοφῶν, καὶ μῦθον ἔλεγον τὸν λόγον εἶναι, εἰ μὴ παῖδες ἔλεγον γεωργῶν. ὁ δὲ λόγος· ἄλλο μὲν ἄλλου φυτὸν ἐρᾷν. τῷ δὲ φοίνικι τὸν ἔρωτα μᾶλλον ἐνοχλεῖν. λέγουσι δὲ τὸν μὲν ἄῤῥενα τῶν φοινίκων, τὸν δὲ θῆλυν. ὁ ἄῤῥην οὖν τοῦ θήλεος ἐρᾷ, κἂν ὁ θῆλυς ἀπῳκισμένος εἴη τῇ τῆς φυτείας στάσει, ὁ ἐραστὴς ὁ ἄῤῥην αυαίνεται. συνίησιν οὖν ὁ γεωργὸς τήν λύπην τοῦ φυτοῦ· καὶ εἰς τὴν τοῦ χωρίου περιωπὴν ἀνελθὼν, ἐφορᾷ ποῦ νένευκεν. κλίνεται γὰρ εἰς τὸ ἐρώμενον· καὶ μαθὼν, θεραπεύει τοῦ φυτοῦ τήν νόσον. πτόρθον γάρ τοῦ θήλεος φοίνικος λαβὼν, εἰς τήν τοῦ ἄῤῥενος καρδίαν

καρδίαν ἐντίθησιν, καὶ ἀνέψυξε μὲν τὴν ψυχήν τȣ̃ φυτȣ̃. τὸ δὲ σῶμα ἀποθνῆσκον πάλιν ἀνεζωπύρησεν, καὶ ἐξανέςη, χαῖρον ἐπὶ τῇ τῆς ἐρωμένης συμπλοκῇ· καὶ τȣ̃τό ἐςι γάμος φυτῶν.

Quod ad plantas attinet, philoſophorum ſententia eſt, quam plane fabuloſam putarem, niſi ei agricolæ ſubſcriberent, plantas alteram alterius amore capi: atque ex iis moleſtiorem eum palmam ſentire. Aiunt enim earum alterum marem, fœminam alteram eſſe. Marem igitur fœminæ deſiderio teneri, ac ſi contingat fœminam procul ab eo conſeri, marem amantem areſcere. Quam ob rem agricolam plantæ deſiderium intelligentem editiore loco inſcenſo diſpicere, quam in partem ſeſe inclinet, (inclinatur enim amatam fœminam verſus) et cognitæ illius ægritudini medelam adhibere. Fœminæ enim ſurculo ſumpto, in maris cor inſerere, itaque ejus animum recreari, corpusque moriens excitari, ac reviviſcere amatæ complexu delectatum. Atque hæ Nuptiæ Plantarum ſunt.

Achilles. Tatius. C. 17. P. 88. Ed. Bodens.
Lips. 8vo. 1776.

55. ——

55. ——*Fila obriguere. Dehiſcunt Folliculi.*———

Quo potiſſimum modo generatio in Regno animali fiat adhuc non ſatis conſtat. In Regno vegetabile ope Aeris fertur Pollen genitalis, in humida vulvæ ſtigmata, ubi rumpitur et dimittit Contentum tenuiſſimum, quod fœcundationem cauſatur. Ita ſeſe in Plantis habere dictitat.———Violæ tricoloris Flos hoc jucundo ſpectaculo oſtendit: flore nempe vix adhuc explicato virginiam vulvam laſcive hiantem globi inſtar concavi et ad latus aperti, albam et nitidam, ſimul ac autem genituram ſuam projecerunt quinque ejus inter ſe affines Mariti, totam vulvam farina genitali repletam, colore fuſco deſpurcatam obſervabis, tuba tamen exiſtente clara et pellucida.

Flor. Lappon. 276.

Gratiola, Œſtro Venereo agitata, piſtillum ſtigmate hiat, rapacis inſtar Draconis, nil niſi maſculinum Pulverem affectans, at ſatiata rictum claudit, defloreſcit, fœcundata fructum fert.

Hort. Cliff. 9.
Linnæi Amœn. Acad. Sponſ. Plant. Tom. 1. 359.
Ed. tert. Erlang. 1787.

56. *—Volat aura ferax, tectoque reflexa*
Præcipitat perque antra tubæ, perque antra placentæ.
Inde pares ſubiens tubulos vaga diditur ovis,
Ova tument, gaudet flos fœmina Prole futura:
Hac gravidatur Ophris, gravidatur lege Papaver.

Negamus pollinem per Stylum ad germina et ſeminum rudimenta usque penetrare, uti voluere Morilandus, Geoffroi, Loganus, aliique, unum enim exemplum a Vaillanto de Papavere traditum ſufficiat, cum oculis nudis pateat: "Papaver orientale hirſutiſſimum, flore magno, Tournef. Cor. 17. Si aperto flore, piſtillum ejuſdem perpendiculari inciditur Sectione, reperiuntur lamellæ placentæ, parvaque iis adhærentia Semina candida, licet interim ſtylus et ſtigmata ſint tincta penitus pigmento purpureo, quod ſuccus eorem hauſit ex granis pulveris ſupra ſtigma diffuſis. Unde concludere oportet, ne unicum ſane granum pollinis ingredi vel lamellas receptaculi vel ſemina ipſa."

Linnæi Amœn. Acad. 1. 372. Ed. tert. Erlang. 1787. Ejuſdem fere Opinionis* eſt clariſſimus Hedwig. Pollinem per

* Vide etiam Vogel de Generatione Plantarum Altorf 1768, qui Linnæi Hypotheſin ſtrenue tutatus eſt.

per Stylum tranſire nequaquam arbitratur, ſed granum unumquodque eſſe Capſulum Vapore ſubtiliſſimo et fœcundante prædituum, quem ſtigma attrahit ſugitque. Sed ad Vaillantum ipſum adeamus.———

Les trompes, dis-je, que je compare a eelles de Fallope, en ce qu'elles tranſmettent aux petits œufs, non pas les grains de pouſſiere même, qu'ejaeulent ſur elles ou dans leurs pavillons les Teſticules ou Sommets, comme le veut un Sectateur des viſions de Leeuwenhock et d'Hartſoeker, mais ſeulement la vapeur, ou l'eſprit volatil, qui ſe degageant des grains de pouſſiere, va feconder les œufs. Car je crois, Meſſieurs, qu'on doit etre perſuadè que dans l'Animal, ce n'eſt ni la maticre du maſle, ni ees pretendus Vermiſſeaux ou Animaux ſeminaires, qui operent dans la femelle l'œuvre de la feeondation, puiſque le même Malpighi, au rapport d'un Anatomiſte moderne, a reconnù que le Fætus ſe trouve dans les Œufs des Grenoüilles et dans ceux des Poules avant la eopulation, comme il eſt tres certain que le germe ſe rencontre dans les ſemences des Plantes qui n'ont point ete fecondees, et avec le Parenchyme des quelles ce germe

ne

ne fait qu'un Continu. Donc, ce ne peut etre que cet esprit volatil auquel la matiere grossiere sert simplement de vehicule. Or, la nature agissant toûjours par des Loix uniformes, on doit conclure que ce qui se passe en cette occasion dans les Animaux, se doit passer de même dans les Vegetaux.

Qu'on examine un peu les trompes du Potiron Melopepo, qui par leur enorme grosseur devroient le mieux quadrer a cette ideè, et l'on verra si elles sont veritablement telles qu'on depeint, et si au contraire, on ne les trouve pas exactement boucheès a leur extremitè et rempliès dans leur longueur, de même que la panse de l'Ovaire, d'une substance pulpeuse et succulente, qui ne sçauroit, sans de tres grandes difficultes, permettre au moindre grain de poussiere, de se glisser dans l'Ovaire.

A l'ègard de la Pomme de Calvil, Erythromelon magnum Parisiacum, ses trompes sont fort pointeuès et aussi delieès a proportion que celles du Potiron sont epaisses, il est hors de doute que leurs ouvertures et leurs Canaux ne sont pas plus reels; et si l'on remarque des Fentes, des Cavites, ou

des Foſſes au bout de certaines Trompes, elles n'y ſont pratiqueès que pour en etendre la ſurface, et recevoir une plus grande quantitè de pouſſiere; a quoi ſervent pareillement les Têtes fongueuſes, et grenuës, les Cornes, les Filets, les Houpes, les Aigrettes, les Panaches, les Poils, le Veloutè, &c. que l'on recontre ſur diverſes troupes. Mais quand on leur paſſeroit l'exiſtence de ces pretendùs conduits, et la poſſibilitè de l'intromiſſion des grains de pouſſiere jusque dans la Capacitè des Ovaires, en concevroit-on mieux par ou ces mêmes grains predeſtinès, entre tant d'autres, pourroient penetrer dans les Œufs d'un Ovaire qui n'auroit qu'une cavitè, comme par exemple, celle de la Primevere, ou les Œufs ſont amoncelès ſur un placenta, ſituè dans l'Ovaire a peu près comme un fruit d'Alkekingi l'eſt dans ſa veſſie, ou une Bobeche dans une lanterne. Car alors, il faudroit qu'il arrivât neceſſairement de deux Choſes l'une, ou que ces grains caſſaſſent la Coque des Œufs pour ſe pouvoir nicher deſſous, ou que prenant une route plus longue, ils ſe coulaſſent entre ces Œufs, qu'ils percaſſent le Placenta pour l'enfiler, et de la, paſſer dans les Œufs. Ces Routes paroiſſent elles naturelles et bien pratiquables?

Peut

Peut être me ſera t'on la même objeƈtion a l'egard de ce que j'ai avancè touchant cette vapeur, cet Eſprit volatil, ou ſi j'oſe me ſervir du terme de la Geneſe, de ce Soufle, lequel ſortant des Pouſſieres, va vivifier, animer, et a l'aide du ſuc nouriſſier, developer ces Racourcis des Plantes, ou les Germes de leurs petits Œufs. Mais la reponſe eſt toute preſte, la voici. Les trompes n'étant qu'un prolongment de la panſe de l' Ovaire qui eſt une Envelope compoſeè de meme que les tiges, de deux ſortes de Tuyaux, ſçavoir de ceux qui charient les Sucs alimenteux, et de ceux qu'on nomme trachès, leſquelles, ſelon Malpighi, ſont dans les plantes, les fonƈtions de Poulmons, il eſt aiſè a ce Soufle de ſ'inſinuer par ces derniers vaiſſeaux qui ſe terminent a la Surface des Pavillons, laquelle Surface eſt denueè de la Peau qui recouvre de corps des Trompes; il eſt, dis-je, aiſè a ſe Soufle de paſſer des tracheès, d'abord dans la Baſe du Placenta qui perce le fond de l' Ovaire, enſuite le long de ſon Corps ſpongieux, et de là, ſe diſtribuer par les Cordons umbilicaux, jusque dans chaque petit Germe qui preſente ſa Radicule au trou de la

Coque de l' Œuf avec lequel ſ'abouche le Cordon umbilical, pour recevoir de ce Cordon et le Soufle et la Nouriture.

Vaillant Diſcours ſur la Structure des Fleurs, leurs differences et l'uſage de leurs parties, prononcè, 10 Juin 1717.

61, *Sin diverſa domus : ſlos maſculus ante recluſis*
Ædibus emittit ſua dona, volatile ſemen
Excipiunt Zephyri, portantque curulibus alis
Conjugis in gremium.———

Antheræ et ſtigmata eodem omnino tempore vigent, et hoc non ſolum quando unum eundemque Florem occupant, ſed et cum diſtinctis gaudent Thalamis, adeo ut Coryli, Betulæ, Alni longiſſima Amenta nunquam pollen antherarum ſuarum projiciunt, antequam ſtigmata infra habitantia progerminarunt.—Monœciæ flores maſculi plerumque ſupra Flores fœmincos collocantur ut pollen eo melius in Piſtillum decidat, ex. grat. Corex, Zea, Coix, Sparganium, Typha et Anthium, Ambroſia, Iatropha, Sagittaria, Myrichyllum, Ricinus, paucis tamen exceptis, quarum inter alias multas numeramus Pinum et Abietem, in quibus Antheræ

quam

quam maxime redundant, adeo ut, ſi Arborem ſeriat animal aut ventus, pollen inſtar fumi ſurſum volitare cernimus; tam quoque copioſus eſt pulvis, ut ſi ſub Floreſcentia Pini Abietis aut Juniperi Pluvia cadit, Annulis fulvis ſtagnantium Aquarum ripæ pingantur polline harum luteo.—Alterum, quod de tempore obſervare meretur, eſt, ubicunque flores maſculi diſtinctis a fœminis guadent Thalamis, aut in eadem aut diverſa planta, et ubi maſculi Flores nec perpendiculariter ſupra fœmineos erecti ſunt; ibi Floreſcentia ante Foliorum exortum peragatur neceſſe eſt, ne foliis intervenientibus inhibeatur ſecundatio; ex. grat. in Moro, Viſco, Alno. Betula, Carpino, Fago, Quercu, Corylo, Juglande, nec non in Salice, Hippophae, Myrica, Populo, Mercuriali perenni, Fraxino.

Linn. Amœn. Acad. Tom. prim. Sponſal, Plant. 355. 363. Ed. tert. Erlang. 1787.

66. *Sic adeo Nili felicia littora propter,*
Diſcretas perhibent connubia jungere Palmas;

Sine maribus non gignere fœminas ſponte edito nemore confirmant: circaque ſingulos plures nutare in eam pronas

 blandioribus

blandioribus comis. Illum erectis hispidum afflatu Visuque ipso et Pulvere etiam reliquas maritare: hujus Arbore excisa viduas post sterilescere Fœminas. Adeoque est Veneris intellectus, ut Coitus etiam excogitatus sit ab Homine, ex Maribus Flore ac Lanugine, interim vero tantum Pulvere insperso Fœminis.

Plinii Nat. Hist. Lib. XIII. 7. Ed. Harduin. 4to. Tom. III. 65.

62. ——————*ramos niger ora Colonus*

Asportat quassatque mares.————

Ὅταν ἀνθῇ τὸ ἄρρεν, ἀποτεμόντες τὴν σπάθην ἀφ' ἧς τὸ ἄνθος εὐθὺς ὥσπερ ἔχει, τόντε χνοῦν καὶ τὸ ἄνθος καὶ τὸν κονιορτὸν κατασείουσι κατὰ τοῦ καρποῦ τῆς θηλείας. κἂν τοῦτο πάθῃ, διατηρεῖ καὶ οὐκ ἀποβάλλει.

Dum mascula floret, Spatha abscissa, qua flores emergunt, protinus ut lanuginem & florem & pulverem continet, super fructum fœminæ decutiunt. Illa sic ea aspersione afficitur, ut suos fructus nullo pacto amittat, sed cunctos conservet.

Theoph. Hist. Plant. Lib. II. C. 9.

Phœnix

Phœnix ſive Palma in Arabia, Perſia, et Egypto quotannis impręgnatur ab incolis. Spathæ Maſculæ maturæ ex Arboris Faſtigio extrahuntur, ſpadices eximuntur, hos in minores ramulos divellunt Incolæ, ut eorum Polline rudimenta fructuum ejuſdem inſenſibilibus particulis perfundantur, intexitur Ramulus, e ſpadice maſculo evulſus, medio ſpadicis femininæ, dum pollinem germinibus inſpergit ipſe. Singulare quod Spadices exſiccati ad Thalamos apti ſunt, et in Annum poſterum ſalva virtute aſſervari poſſunt. Imprægnatio quoque ultronea interdum contingit tranſlato per aerem polline, cum vero plena res aleæ ſit, manu potius peragitur. Si vero nulla ſit imprægnatio, omnia Rudimenta indeclinabili abortu demittunt fœminæ, poſſeſſoribus et ipſis Provinciis calamitoſa, quum ipſi Populi meſſe dactylifera, ut noſtri ex frugifera, vitam ſuſtentant.

(Kœmpfer. Amœn. 706.)

Hadghi Muſtapha, Legatus Tripolitanus, mihi declaravit, ramulum floris Palmæ maris in Spatham palmæ femineam inſeri, quo tempore Spatha hiare ſoleat; flos etiam explicatus, pulverem fundit, ſine cujus affectione, Dactyli acerbi

 forent

forent et infuaves, immo et officulis carerent, Camelis tantum et Jumentis exhibendi.

(Tournefort. Ifag. 69.)

Piftachiæ Arbores Mares et Feminæ eundem Palmæ fervant méthodum. In Sicilia Florum racemos e Piftachia mare decerpunt Ruftici, et in vas recondunt, ut Pulvis fecundans Ventorum ope facilius difpergatur, et Flores fæminæi imprægnentur. Alii Flores mafculos colligunt, fucculis ficcandos exponunt, et pulverem proliferum in femineos Flores fpargunt, ne Fructus abortiant Meffisque deficiat.

(Geoff. Nat. Med. 2. 417.)

Phœnix dactylifera Fœmina Berolini* diu floruit fterilis. Sed cum Berolinenfes flores a mare, Lipfiæ florente, per tabellarium publicum afferendos curaffent, fructum horum ope fecit, ejufdemque generationis Dactyli aliquot in meo horto confiti progerminarunt, læteque etiamnum crefcunt.

Linnæi Difquifitio de Plant. Sexu, ab Acad. Imp. Scient. Petrop. præmio ornata 1760.

Ifta

* Vid. Mylii Epift. Act. Philof. Reg. Lond. Vol.47.— 169.

Iſta haud ignorare fatetur clar. Gul. Smellie in Philoſ. Hiſt. Nat. ſed parum adhuc adductus eſt ut crederet.

Paucula idcirco ex Itin. recentioribus referre fortaſſe fas erit.——The Palm Tree grows very high in one Stem.—A Sort of Bough ſhoots out and bears the Fruit in a Kind of Sheath, which opens as it grows. The Male bears a large Bunch ſomething like Millet, which is full of a white Flower, and unleſs the young Fruit of the Female is impregnated with it, the Fruit is good for nought, and to ſecure it, they tie a Piece of this Fruit of the Male to every bearing Branch of the Female. Strabo obſerves that the Palm Tree in Judea did not bear Fruit, as at preſent; which probably may be owing to their not having the Male Tree; concerning which I could get no information. But the Fruit of the Female Tree, without the Male drops off, or comes to no Perfection. About Damaſcus I ſaw a String of Figs tied almoſt to every Fig Tree, and was told that they were the Male Fig, placed there for the ſame Purpoſe, as the Male Date is tied to the Female.

Pocock's Deſcript. of the Eaſt. Vol. 1. 206.

On

On the Morning of the 21ſt, I had the Pleaſure of ſeeing from my Window one of the moſt remarkable Sights in Nature. A Female Palm (Phœnix dactylifera Linnæi) had in the Night put forth its Bloſſoms from the Spatha; I went thither at Sun-riſe to ſee it, whilſt the Dew was yet falling. I ſaw a Gardener, the Proprietor of the Palm, climbing up the Palm, which equalled our largeſt Firs in Height. He had a Bunch of Male Flowers with whom he powdered the Female, and by theſe Means fecundated them.

Haſſelquiſt's Voyages and Travels in the Levant.
English Tranſl. 112.

In one of our Excurſions———we had an Opportunity of obſerving a curious Proceſs in the vegetable World. It has already been obſerved by Naturaliſts, but is too uncommon to be known to Readers of every Claſs. The Date Trees were now in Bloſſom; and we remarked the Arabs to be buſied about the Branches. It is neceſſary to ingraft all Fruit-trees, to obtain good Fruit; but the Propagation of the Date is in another Manner, and intimately reſembles that of the animal Creation. There is a Male as well as a

Female

Female Date Tree, which are diſtinguiſhed from each other by the Colour and Shape of the Bloſſoms. The Male-tree yields no Fruit; but the Gardener muſt be careful, every Spring, to cull as many Bloſſoms from the Male as will ſerve his Purpoſe. One of theſe at leaſt he muſt inwrap and bind up in the Bloſſom of the Female-tree; without which ſhe will prove as barren as the Male.*

Irwin's Series of Adventures in the Courſe of a Voyage up the Red Sea. 8vo. Ed. 1787.

In the Garden of the Auſtin Friars I ſaw ſeveral large Piſtachia Nut-trees, called in Sicilian, Scornabecco, and the Fruit, Faſtugo. Theſe Trees are of Linnæus's Dioecia Pentandria, and produce Male and Female Flowers upon different diſtinct Plants. The latter prove barren and uſeleſs, unleſs rendered fruitful by the Aſperſion of the Pollen from a male Plant, and, therefore, the Purpoſes of Fe-

cundity

* The Egyptians have ſo far improved on this Mode, as to plant only a Male Date-tree in the Middle of many Females. The Wind ſcatters the Male Seed, which impregnates the Female Tree, without the Trouble of the Arabian Culture.

cundity can only be anſwered by Trees of different Sexes being ſet near each other. In theſe Gardens are many of the Female Kind, and only one of the Male, which has ſmall, oblong, blunt Leaves of a duſky Green, the Flowers thick, and in bunches; the Female Bloſſoms are more ſcattered, the Leaves larger, harder and rounder, and of a lighter Colour. The Male flowers firſt, and ſome Gardeners pluck them when ſhut, dry them, and afterwards ſprinkle the Duſt over the Female Tree. But the Method uſually followed in Sicily, when the Trees are far aſunder, is to wait till the female Buds are open, and then to gather Bunches of the Male Bloſſoms ready to blow; theſe are ſtuck into a Pot of moiſt Mould and hung upon the Female Tree, till they are quite dry and empty; this Operation is called Tuchiarare, and never fails to produce Fructification.

Swinburne, 36th Section, Vol. III. 386.
Second Ed. 8vo. 1790.

83. ———*nimia laticum ſub mole laborant.*

Infeſtantur namque et arbores morbis. Quid enim genitum

caret

caret his malis?—Itaque laborant et fame et cruditate, quæ fiant humoris quantitate. Aliquæ vero et Obesitate: ut omnia quæ resinam ferunt, nimia Pinguedine in tedam mutantur: et cum radices quoque pinguescere cœpere, intereunt, ut Animalia nimio adipe.

Plin. Nat. Hist. Lib. XVII. 37. Ed. Harduin.
Tom. III. 404. 405.

Τάχα δὲ καὶ γένει τινὶ δένδρων ἔνια κατὰ φύσιν αὐτομάτως τε γινόμενα, καὶ οὐ κακουμένης ἀλλ' εὐθενούσης· οἷον τῆς πεύκης, ὅταν αἱ ῥίζαι δαδωθῶσι. πάσχουσι μὲν γὰρ τοῦτο δι' εὐτροφίαν καὶ δι' ὑπερβολήν. ἅμα δὲ τῇ δαδώσει τὴν τροφὴν οὐ διεῖσαι φθείρονται. καὶ ἔοικε παραπλήσιον τὸ συμβαῖνον τῷ ἐπὶ τῶν ζώων, ὅταν ὑπερπαχυνθῶσιν. οὐ δυνάμενα γὰρ ἕλκειν τὴν πνοὴν, οὐδ' ὅλως τῷ πνεύματι χρῆσθαι, διὰ τὴν σύμφραξιν καὶ τὴν πύκνωσιν· ἐκεῖνά τε ἀποπνίγονται, καὶ αἱ πεῦκαι.

Arborum autem genus etiam aliquod fortasse est, cui corruptio secundum naturam sponte, nec ullo pacto læso, sed bene vigenti eveniat: ut pino, cum radices mutatæ in tædam fuerint. Ita enim fit ex nimietate nutritionis atque excessus.

ceſſus. Cumque per tædam tranſmittere pabulum arbores nequeant, moriuntur. Qnod proximum illi videtur quod animalibus evenit, quæ extra modum craſſantur atque pinguefcunt. Cum enim auram attrahere nequeant, nec ullo pacto ſpiritu uti poſſint, propter obeſitatem condenſationemque; tum illa ſtrangulantur, tum pinus.

Theophraſt. de Cauſ. Plant. Lib. v. C. 15.

Νόσημα δὲ ταῖς πεύκαις τοιοῦτόν τι λέγουσι συμβαίνειν οἱ περὶ τὴν Ἴδην. ὥσθ᾽ ὅταν μὴ μόνον τὸ ἐγκάρδιον καὶ ἄλλα καὶ τὸ ἔξω τοῦ στελέχους ἔνδαδον γένηται, τηνικαῦτα ὥσπερ ἀποπνίγεσθαι. τοῦτο δὲ αὐτόματον συμβαίνει, δι᾽ εὐτροφίαν τοῦ δένδρου.

Morbum pinis accidere talem Idæi incolæ narrant. Cum non ſolum Cor, ſed etiam pars externa caudicis in tedam tranſiverit, tunc ſtrangulari quodammodo. Quod ſponte accidit Ubertate Arboris largiſſima.

Theophraſt. Hiſt. Plant. Lib. III. C. 10.
Vide etiam J. Ray. Hiſt. Plant. Tom. I. Chap. 30.

108. *Ille dolos meditans, & longo callidus usu*
Stamina solicitabat acu——

Parietaria Generationis Processum aperte ostendit, si modo mane horaque Veneris sacra attendamus, videbimus quomodo ejus Antheræ clasticiter rumpuntur, pulveremque emittunt, consequenter etiam, in Pistillum. Idem quoque prodit Experimentum, si acu ipsas Antheras attingamus, ut observavit Vaillantus.

Linnæi Amœn. Acad. I. 368. Sponsalia Plant. Ed. Erlang. 1787.

Toute cette mechanique se peut aisement remarquer sur la Parietaire à l' Heure de Berger, c'est à dire le Matin, temps où les differents Sexes des Plantes prennent ordinairement leurs Ebats. Et si ces Fleurs ne vouloient pas agir de grè, pendant qu'on les observe, on peut les y forcer, en les aiguillonent doucement avec la pointe d'une epingle, car pour le peu qu'on en souleve un des Lobes quand elles ont ainsi dire l'Age competent, les Hampes ou les Filets des etamines, arquès ou cambrès qu'ils sont, venant à se dresser comme par un Effort violent, on decouvre aussitot ce qui

ce

ce qui paſſe de plus particulier dans cette eſpece d' Exerciſe Amoureux.

Vaillant Diſcours ſur la Structure des Fleurs, leurs differences et l'uſage de leurs parties, prononcè, 10 Juin. 1717.

113. *Exin conceptos utero cupidiſſima fœtus*
Mater alit, moriturque lubens, ubi viſa Propago
Grandior, extinctosque habilis renovare parentes.

Omnia animalia ſub inſtanti copula ſpecioſiſſima ſunt; Cervus prominentibus cornibus ſupinatur, Venuſtate nitent Aves; Piſces jucundiſſime ſapiunt. Sed peracta Venere Cervus celſa perdit Cornua: Aves multum Pulchritudinis, et Piſces haud minimum priſtini ſaporis amittunt. Plantæ iiſdem ſubjectæ ſunt mutationibus. Tempore vernali et Floreſcentiæ, viriditate et formoſitate maxime ſuperbiunt; illa vera peracta priſtinum nitorem maxime perdunt.—— Venus multum utique vires corrumpit, et debilitat. In Bombyce Phalænis, et Papilionibus videre licet, quomodo peracta Venere Alæ decidant eorumque vita exſpiret. Si

vero

vero Papilio quidam conclavi ſolus includitur, ne cum aliis coeat, dimidium ſæpe anni viget et permanet. Adeas Plantas Annuas ſeu Biennes, et videbis, quod, quamdiu flore non operiuntur, frigidæ reſiſtant Hyemi, Ex. gr. Dianthe, Lychnides, Coronariæ; ſi vero primo anno flores producant, ingruente Hyeme pereant, ſi floribus carent, tertium et quartum perſæpe abſolvunt annum.

Muſa centum ſæpe in hortis Belgarum vidit annos; floribus vero ſemel explicatis, nulla ars, nulla experientia impediet, quin Caulis ejus ſuperbus ſequenti anno fatalem ſubeat interitum.

Corypha excreſcit ſterilis per triginta et quinque annos ad ſeptuaginta pedum altitudinem, et hinc per quatuor menſes ad triginta adhuc pedes aſſurgit, floret, fructumque eodem anno producit, quibus abſolutis tota emoritur. (Hort. Cliff. 482.)

Lavatera (arborea) foliis ſeptem angularibus obtuſis, plicatis villoſis, Caule fruticoſo, floribus ad alas confertis. (Hort. Cliff. 348.) in altitudinem Pyri arboris ſurgit, dura Hyemis frigora bene ferens, ſemel vero, uno licet, decorata flore,

nec auxiliatrices hortulanorum Manus, nec Hybernacula aut Apparatus omnes, imminente brumali frigore, interitum illius avertere quæant.

Linn. Amœn. Acad. Tom. I. 375, 376.
Ed. ter. Erlang. 1787.

Attentione denique dignum eſt, quomodo in Rapa radix pulpa medullari primo anno completa et craſſa, in ſequenti mox anno cava, cum caulem fert floresque ac ſemina, pulpam hanc ex imo fundo in Florem usque tollat, adeo ut tota in ſemina ingredi videatur, totque in vitas diſpertiri, quot inde novæ plantæ oriantur.

Linnæi diſquiſitio de Sexu Plant. ab Ac. Imp. Scient. Petr. præmio ornata, 1760.

116. ———*tellus ubi lapſa feraci*
Semina concepit gremio, ſalibusque liquatis
Jam laxæ patuere viæ: vagus humor hiantes
Arietat in tubulos,———

Semine terræ commiſſo humor ſeu ſuccus nutritius, duplici filtratione per ſeminis tegumenta et Plantulæ ipſius membranulam

nulam depuratus, a foliorum pulpa imbibitur, cumque eorum ſalinis et oleoſis particulis commixtus, idoneum radiculæ nutrimentum ſuppeditat. Hæc autem primum germinans tunicas diſrumpit, et producta in terram deſcendit, indidemque nutrimentum et ſibi haurit et foliis ſeminalibus redit, quæ deinde aucta et explicata e terra erumpunt, tegumenta dilacerata exuunt, inque longitudinem et latitudinem extenduntur, rariores tamen magisque ſpongioſæ lentæ quoque et fibroſæ evadunt.

J. Ray. Hiſt. Plant. Lib. I. 28.

126. *Parva latet primo, mox eminet herbula, verſis*
In folia uberibus, Cæloque exultat aperto.

In omnibus quæ unquam diſſecui idoneæ Magnitudinis ſeminibus plantulam ſeminalem ſemper inveni, in nonnullis perfecte efformatam, ut partes ejus omnes nudis etiam oculis poſſent diſcerni, et digitis a ſe invicem diduci, in aliis minus perfectam, certe partes ejus non ita a me potuerunt diſcerni.

J. Ray. Hiſt. Plant. Lib. I. 26.

Semina Plantarum evolvamus, ſuſpenſa Manu intueamur partes conſtituentes, obſervabimus intra tunicas latere Cotyledones, et intra has Plantæ Compendium. Incipiamus ab evidentioribus : ſumamus ſemen Nymphæ Nelumbo dictæ, et reſeratis clauſtris, videbimus plantam petiolis foliisque peltatis inſtructam, ita omnibus numeris perfectam, ut quivis Botanicus facillime dignoſcat plantam ipſius ſeminis a reliquis omnibus.

Linn. Amœn. Acad. Tom. v. Sec. 12. 114.
Ed. ſecond, Erlang. 8vo. 1788.

In quocunque ſemine polline Antherarum fœcundato, tota continetur Planta, omnibus Partibus perfecta, licet non ita ſemper diſtinctæ appareant, ut oculis poſſint diſcerni. In ſeminibus Nymphæ Nelumbo dictæ N. D. Præſes folia hujus Plantæ tam perſpicue vidit, ut ex illis ſemina dignoſceret. Idem ipſi contigit, dum ſemina Liriodendri Tulipiferæ aperiret.

Linn. Amœn. Acad. Tom. vi. C. 8. Sec. 9. 380.
Ed. ſecond, Erlang. 8vo. 1789.

Jucundiſſimum interea eſt ſpectaculum in Gemmis Hepaticæ et Pedicularis hirſutæ ſub terra latitantibus, in Gemmis

fruticis

fruticis Daphnes Mezerei, nec non intra basin stipitis Osmundæ Lunariæ, perfectum conspicere Plantam futuri Anni,* omnibus suis partibus eruendam, annuo spatio antequam prodeat. Immo, Radix omnis Plantæ perennis infra terram profert Gemmam futuri Anni. Nuper etiam observavit Nobiliss. D. Professor a Linne (Junior) in Radice Anemonis dichotomæ gemmas alternatim positas, quarum prima seu maxima continet plantam futuri Anni 1764. Secunda, tertia, quarta, et quousque demum numerari possint, succedentium Annorum herbas, exemplum sane singulare, quod hic solum attulisse sufficiat.

Linn. Amœn. Acad. Tom. VI. C. 8. Sec. 10. 383.
Ed. second, Erlang. 1789.

128. *Quisquis amas flores, cave, barbara dextra trucidet*
Hæc folia ante diem,———

Flores omnes (observante Greuio) non secus quam Surculi perfecte formantur omnibus suis partibus absolutis tribus aut

 quatuor

* Philos. Bot. 37.

quatuor menſibus, et interdum dimidio anno, aut etiam amplius, antequam in Lucem et Conſpectum prodeunt. Adeo ut perennium herbarum omniumque in genere Arborum et Fruticum, qui cenſentur anni cujuſcunque flores, anni illius revera non ſunt, ſed diu ante extiterunt, præcedente ſcil. anno integram omnium partium formam et diſpoſitionem adepti: ut ſingularum gemmas diſſecando patebit. Sic Flos Mezerei, qui Januario menſe interdum aperitur, circum medium Auguſtum anni præcedentis integre formabatur: quo tempore foliis gemmæ viribus caute detractis floris petala ejuſdemque apices, ſeminis conceptaculum cingentes, perſpicillo etiam mediocri clare et diſtincte viſibilia redduntur. Alia exempla adducit laudatus Auctor, quæ apud ipſum vide. Tempus autem, quo Flos generatur ſeu formatur, a nemine ante ſe obſervatum miratur. Invenio tamen in Lunaria minore tempus illud ab oculatiſſimo F. Columna obſervatum. In hac ſpecie (inquit) omnes Plantæ in imo petiolo ſupra radicem folliculum quendam habent, veluti Ari florem exiguum, in quo plantulam exiguam, veluti Fœtum complicatum extare vidi, intra folliculum, uteri vicem gerentem

rentem integram, folioſum tantum quæ racemo vidua erat, poſt annum proferendam proferendam et quæ racemoſa cum ipſo exiguo ſed integro racemo convolutam. Et hoc mirum Naturæ inſtitutum. Alias plantas ſimili modo infra terram uterum gerere agnovimus, et ſuo tempore proferre, ſed non anno integro, et forſan non medio, verum a nova radicis ipſius extumeſcentia, ut in Bulboſis quibuſdam, in quibus intra Bulbum ipſum ſpicatum cauliculum obſervavimus, ſuo tempore proferendum.

J. Ray. Hiſt. Plant. Lib. I. C. 8.

142. *Ac veluti, quoties ſpirarum amplexibus arctis*
Porrigitur, ſummaque imam Cor parte refugit,
Sanguineum elidens amnem vomit, ille repente,
Qua fuga, dives opum ruit :———

Plantis nec eſt Cor, nec idem opus eſt; eodem enim modo vivunt, quo Polypus in Regno Animali; Humor namque Aeri immixtus, per ſua vaſa propellitur, retro vero non circulatur.

Linn. Amœn. Acad. Sponſal Plantarum. Tom. I. 377.
Ed. tert. 8vo. Erlang. 1787.

152. *Haud aliter ſuccos ut hiansque premensque viciſſim*
Vere novo bibulis hauſit radicibus arbor,
Fit via vi, tortis per viſcera callibus humor
Tollitur in ſublime, fluentes undique Rivi
Truncum animant,———

De Succi Nutritii aſcenſu ſunt variæ Hypotheſes, quas plerumque retulit J. Ray———

Quomodo Succus nutritius per Fibrarum Poros Arborum etiam altiſſimarum ſumma faſtigia conſcendat, mihi non penitus perſpectum fateor. Aquam in tenues Tubulos utrinque apertos, perpendiculariter etiam erectos aliquousque aſcendere experientia conſtat, eoque altius quo anguſtiores ſunt Tubi. Quis vero iſtius Aſcenſus Terminus ſit, certuſne an incertus, et pro anguſtia Tuborum intantum altior, ut in anguſtiſſimis ad excelſarum etiam arborum ſummos apices evadat, me latet. Contrarium tamen videtur cum, annotante nobiliſſimo Boylio, ſatis difficulter ad tres quatuorve uncias aſcendat. Quo impulſore hoc fiat, difficile eſt inveſtigare. Aquam equidem in anguſtiores meatus, quam Aerem, vel ſponte ſe inſinuare, vel vi compelli poſſe,

adeoque

adeoque Tubulorum anguſtias Aeri inpervias ſubire, experimenta evincunt, quin ſcilicet Aqua minoribus particulis componitur quam Aer. Cum ergo fibrarum cava ab anguſtias ſuas Aerem excludant, Aquam admittant, externi autem Aeris Gravitas effectum ſuum ſortiatur, quidni Humorem in Fibras ſurſum compellet, ad eam ſcilicet altitudinem, donec ad æquilibrium cum Aere externo veniat, hoc eſt ad triginta duorum plus minus pedum? Hæc quamvis ratiocinanti veriſimilia videantur, ſi tamen experientiam conſulas, longe aliter rem ſe habere deprehendes; ſiquidem nobiliſſimus Boylius Aquam in iſtius modi Tubulis filtriſve non minus intra Recipiens ſeu Vas magnum Aere exhauſtum ſuſpendi quam extra in Aere libero et aperto, experiundo didicit et nos docuit.——Verum (ut id concedatur) Arbores altiſſimæ duplo triplove hanc menſuram excedunt. Alia ergo adhuc Aſcenſus cauſa, ſaltem adjuvans, quærenda eſt. Experientia conſtat Aquam in Vaporem reſolutam, et in minima diviſam Gravitatem ſuam amittere, et per Aerem medium aſcendere, quæcunque tandem Gravitatis cauſa ſit. Videtur ergo ut Gravitas ſuum ſortiri poſſit effectum, re-

quiri

quiri ut Corpus grave aliquam habeat molem et magnitudinem; alias enim (ut vidimus) ſi in minima dividatur fieri poteſt ut a fluido cui innatant ejus Particulæ vel ſuſtentari poſſit, ut Metalla etiam ponderoſiſſima in Menſtruis eadem in minima ſolventibus, vel etiam ſurſum compelli, ut Aqua in Vaporem reſoluta in Aere. Forte ergo Succi in anguſtiſſimis fibrarum Canaliculis in tenuiſſima filamenta diviſio ad Aſcenſum ejus promovendum concurrere poteſt.—D. Grew* aſcenſum ſucci in plantarum Vaſis partim Vaſorum anguſtiæ, partim Parenchymatis vaſa ambientis, ex innumeris Veſiculis compoſiti preſſuræ attribuit. Hæ enim Veſiculæ ad ingreſſum alicujus Liquoris naturali quadam propenſione ſe dilatant, ut in Spongiis apparet, quarum textura Plantarum Parenchymati non adeo diſſimilis eſt. Parenchyma ergo Succo repletum et intumeſcens continuum ſeſe dilatandi et extendendi conatum exſerit, unde et vaſa una comprimat, et coarctet neceſſe eſt, adeoque et Succum ſurſum compellat. Verum cum compreſſio utrinque tam deorſum quam ſurſum effectum

* N. Grew. Anatomy of Plants.

effectum ſuum ſortiatur, non video, quin Aſcenſum Succi initio impediat, niſi Valvulæ obſtent, quas neque nos, neque D. Grew, ob rationes ſuperius dictas admittimus. Adde quod unde oriatur hæc ſeſe dilatandi propenſio in Parenchymate Plantarum, explicatione ulteriori indiget.——Nos equidem Succum eodem fere modo Plantarum Fibros ſubire et conſcendere, quæ Aqua Panis aut Spongiæ Poros, Panique linei laneive lacinias, aut aliud filtrum ſolet, concedimus. Fibrarum etiam Structura et Conformatio (ut obſervat D. Malphigius) Liquoris Aſcenſum adjuvat. Sunt enim fibræ tubuloſa Corpora e Corpuſculis plurimis concavis, quadratis, aut interdum orbicularibus, aliuſve Figuræ, invicem hiantibus compoſita. Subintrans itaque Humor (D. Malphigii verba ſunt*) ſurſum aſcendit et quaſi ſuſpenditur. Singula namque Portio quæ Fibrarum fruſtulo unit, cum parum interius emineat, Valvulæ vices ſupplet, et ita minima quælibet Guttula veluti per Funem, ſeu per Gradus ad ingens deducitur faſtigium. Quænam autem

* Anatome Plantarum. Pars 1. Pag. 5.

tem Aſcenſus hujuſce cauſa efficiens ſeu impulſiva ſit, quæ ſuccum ſurſum adigat et compellat, nos hactenus latet; nec enim in cauſis aſſignatis nobiſmetipſis ſatisfecimus.

J. Ray, Hiſt. Plant. Tom. 1. C. 17. 31.

If we take a ſmall Glaſs Bolt-head, heat the Bole of it at the Candle, and put the End of the Stem immediately into Water, that Fluid, on the cooling of the Machine will be made viſibly to riſe up the Stem into the Head on the Condenſation of the Air before expanded by the Heat.—This Experiment will, in ſome Part intimate to us the Progreſs and Riſe of the vegetative Sap, with the Cauſe of ſuch Riſe. The Head of the Machine repreſents the extreme and tender Parts of the Plant; the included denſe Air, the Fluids lodged in thoſe Extremities, and in general thoſe contained in the Cells of the whole Tree. The Heat ſupplied denotes that of the Sun in the Day-time, which not only immediately acts upon and attenuates the Viſcidities of the Plant, but alſo ſerves to dilate and enlarge the Cavities of the Plant, which makes it enlarge and ſhoot. The Liquor riſing in the Stem of the Glaſs ſignifies that of the Juices imbibed from the

Earth

Earth by the Fibres of the Root, whence they paſs by ſmall Canals up the Body of the Tree forwarded probably alſo by the Attraction of Coheſion within, as well as by the Preſſure of the Atmoſphere without, eſpecially when the Fluids come to ſhrink and be again condenſed in the more tender Parts of the Plant by the ſucceeding Cold of the Night.

Clare, on Fluids, 223.

159. ———*diverſa redit par vaſcula præceps*

Radicemque petit ſucco miſcenda recenti.

Humorem a radice in Truncum aſcendentem iterum deſcendere pluribus nec indoctis judicium fuit. Inter hujuſce Syſtematis Fautores præcipuum locum jure ſibi vindicare poteſt P. Blair, et

———Si Pergama dextra

Defendi poſſent etiam hac defenſa fuiſſent,

Id tamen falaciſſimum deprehenditur, et, ut clar. G. Hales fuſius demonſtravit, humorem a radice per Truncum ad Ramos delatum per tranſpirationem egredi recens experi-

entia

entia ſat ſuperque docuit.—Vide G. Hales. Vegetable Statics Chap. IV. paſſim.

161. *Dat Sol, dat ſtimulos, motum inchoat, adjuvat, auget,*
Namque calens arctis fruticum in pulmonibus aer
Æſtuat,———

Sol agit in Terram regelando, calefaciendo, et præparando uti focus in aſſaturam verſatilem, ad cujus maturitatem certa quantitas caloris requiritur. Sol enim calore ſuo pellit ſuccum radiculis hauſtum per arborum canales, non redeuntem noctu, ſed quotidie addendo auget effectum.

Iter. Scand. 24.

Plantarum Ventriculus eſt Terra, Vaſa chylifera Radix, Oſſa Truncus, Pulmonis Folia, Cor calor.

Fund. Botan. S. 147.

171. *Surgit homo Borames.*———

Linnæi Polypodum Barometz.—Frondibus bipinnatis, pinnis pinnatifidis lanceolatis ſerratis, radicibus lanatis.—Habitat in China unde habui cum radice. Radix decumbens,

craſſa,

craſſa, Vellere moliſſimo intenſe flavo obveſtita. Stipites pedales S. ſeſquipedales virides, læves obſolete angulari: Frons bipinnata: Foliolis oblongis: infimis oppoſitis; reliquis alternis, axillis patulis. Pinnæ lanceolatæ, acutæ, pinnatifidæ lobis acutis apice ſerratis. Sunt hæ frondes glabræ, nec frutificationem obtinui, ſed ex facie huc retuli.

Linnæi Species Plantarum. Tom. II. 1553.
Ed. Holm. 1763.

Ab Er. Darwin M. D. vivis coloribus feliciſſime depingitur.

E'en round the Pole the Flames of Love aſpire
And icy Boſoms feel the ſecret Fire:
Cradled in Snow and fann'd by Arctic Air,
Shines, gentle Barometz! thy golden Hair:
Rooted in Earth each cloven foot deſcends,
And round and round her flexile Neck ſhe bends;
Crops the grey coral Moſs and hoary Thyme,
Or laps with roſy Tongue the melting Rime;
Eyes with mute Tenderneſs her diſtant Dam,
Or ſeems to bleet a vegetable Lamb.

Loves of the Plants. 30.

Multæ

Multæ enimvero de hac Planta Fabulæ narrantur. Tres adjecimus ejuſdem Figuras, quarum prima extat in Aſt. Ph. Reg. Lond, ſecunda in Editione Silvæ et Terræ Js. Evelyn, quam cl. A. Hunter nuper dedit, et tertia ex delineatione D. de la Croix.———

The Figure repreſents what is commonly, but falſely called, the Tartarian Lamb, ſent down from thence by Mr. Buckley. This was more than a Foot long, as big as one's Wriſt, having ſeveral Protuberances, and towards the End ſome Foot Stalks, about three or four Inches long, exaſtly like Foot Stalks of Ferns both without and within. Moſt part of this was covered with a Down of a Dark yellowiſh Snuff Colour, ſhining like Silk, ſome of it a quarter of an Inch long.—This Down is commonly uſed for ſpitting of Blood, about ſix Grains going to a Doſe, and three Doſes pretended to cure ſuch a Hæmorrhage. In Jamaica are many ſcandent and tree Ferns, which grow on to the bigneſs of Trees, and have ſuch a Kind of Lanugo on them, and ſome of the Capillaries have ſomething like it.—It ſeemed to be ſhaped by Art to imitate a Lamb, the Roots or climbing

ing Parts being made to refemble the Body, and the extant Foot Stalks the Legs. This Down is taken notice of by Dr. Merret, at the latter End of Dr. Grew's Muf. Soc. Reg. by the Name of Poco Sempie, a Golden Mofs, and is there faid to be a Cordial. I have been affured by Mr. Brown, who has made very good Obfervations in the Eaft Indies, that he has been told by thofe who lived in China, that this Down or Hair is ufed by them for the ftopping of Blood in frefh Wounds as Cobwebs are with us, and that they have it in fo great Efteem, that few houfes are without it, but on Trials I have made of it, though I may believe it innocent, yet I am fure it is not infallible.

Philof. Tranf. Abridg. by Lowthorp, Vol. II. 646.

This Vegetable is called the Tartarian Lamb from its Refemblance in Shape to that Animal. It has fomething like four Feet, and its Body is covered with a Kind of Down. Travellers report that it will fuffer no Vegetable to grow within a certain Diftance of its Seat.

Hunter's Evelyn's Terra added to the Silva, Vol. II. 248.

De hujusce Plantæ tamen Figura naturali adhuc dubitandum eſt. Eam usquequaque quæritavit J. Bell, et re bene explorata arti plus quam Naturæ Formam ſabuloſam debere videtur.

Before I leave Aſtracan it may be proper to rectify a miſtaken Opinion, which I have obſerved frequently to occur in grave German Authors, who, in treating of the remarkable Things of this Country, relate that there grows in this Deſart, or Stepp adjoining to Aſtracan, in ſome Plenty, a certain Shrub or Plant, called in the Ruſſian Language, Tartaſky Boraſhka, i. e. Tartarian Lamb. With the Skin of which the Caps of the Armenians, Perſians, Tartars, &c. &c. are faced. They alſo write, that this Tartaſky Boraſhka partakes of animal as well as vegetative Life, that it eats up and devours all the Graſs and Weeds within its reach. Though it may be thought that an Opinion ſo very abſurd could find no Credit with People of the meaneſt Underſtanding, yet I have converſed with ſome who were much inclined to believe it, ſo very prevalent is the prodigious and abſurd with ſome Part of Mankind.—In ſearch of this wonderful

derful Plant I walked many a Mile accompanied by Tartars who inhabit theſe Deſarts; but all I could find out were ſome dry Buſhes ſcattered here and there, which grow on a ſingle Stalk, with a buſhy Top of a browniſh Colour; the Stalk is about eighteen Inches high, the Top conſiſting of ſharp prickly Leaves.—It is true that no Graſs or Weeds grow within the Circle of its Shade; a Property natural to many other Plants here and elſewhere. After a further Enquiry of the more ſenſible and experienced among the Tartars, I found they laughed at it as a ridiculous Fable.

Bell's Journey to Iſpahan. 8vo. Ed. Vol. I. 49.

Idem refert Abbas Chappe d'Auteroche in ſuo Itin. Tatarico, qui pari Induſtria nec feliciori ſorte Agnum Scythicum requiſivit.

188. *Aſpicis ut nulla Stratiotes ſede moretur.*

Στρατὶωτης ὅ ἐπι τῶν ὓδατων φυὸμενὸς, οὶ δὲ ποτάμιου ϛρατὶωτην καλἓσιν· ὤνομὰϛαι δὲ δὶα τό ἐπὶνηχεσθαι το͂ις ὓδασι καὶ χωρ͂ὶς ρὶζης ζῆν.

Stratiotes in Aquis nafcens, quem alii Stratiotem fluviatilem appellant, ex eo cognómentum traxit quod aquis fupernatat, & fine Radice vivit.

Diafcorides. Lib. IV. C. 102. Ed. Saracen. P. 283.

Planta tota feffili Bafi Nilo incubat, aquis innatans citra Radicem, quamvis radicum vicem demiffa terram verfus tenuiffima fibrarum veluti Filamenta fuftineant.

Vefling. Obferv. in Alpin. Ægypt. Plant. C. 35.
Vide etiam Alpinum de Plant. Ægypt. C. 35.

200. *It Virgo in furias,*———

Ridenda eft mehercule talis Fabula, fed æque abfurdum eft id, quod de Atropha Mandragora dicitur.

You have heard of the Mandrake's Groan, and of "Shrieks, like Mandrakes torn out of the Earth:" Superftition having endued this Plant with a Sort of animal Life, fatal to whofoever prefumed to deftroy it, by diging up the Root. It was famous, as Opium now, for procuring Sleep; whence Cleopatra calls for Mandragora, "that fhe might fleep the great Gap of Time her Antony is away." And the vile

Iago

Iago boaſts that " not Poppy, nor Mandragora, nor all the drowſy Syrups of the World, ſhall ever med'cine Othello to the ſweet Sleep which he had Yeſterday." Since the Mandrake groans and ſhrieks when injured, it muſt needs have a human Form; and accordingly ſuch have been carried about for Sale, notwithſtanding the Danger that attends the procuring it; but this is cunningly avoided by tying a Dog to the Root, and thus making the blind Fury of the poor Mandrake fall on the innocent Dog, inſtead of the Aggreſſor. Theſe pretended Mandrakes, are ſaid to be Roots of Angelica or Bryony, either cut into Form, or compelled to grow through earthen Moulds put into the Ground for this Purpoſe; they were uſed in magical Incantations; and though theſe are now pretty much out of Faſhion, yet I have had them very gravely offered me for ſale.

Martyn's Elements of Botany. 197. ſecond Ed.

Vide tamen Arboris Gementis ſingularem Hiſtoriam apud Guliel. Gilpin. Foreſt Scenery, Vol. 1. 162.

212. ——*ſonipes ferrato ſi pede ſacris*
Audeat inſultare jugis, hoſtem herba petulcum
Impetit,———

——— Credat Judæus Appella
Non ego.———

ſed de noſtri Auctoris Credulitate vide

328. *Vorticuli totis connixi.*——

226. *Adde Poteſtates varias Cœlique Solique*
Et Lymphæ nutricis opes,——

Nec vero Terræ ferre omnes omnia poſſunt.
Fluminibus Salices, craſſisque paludibus Alni
Naſcuntur, ſteriles ſaxoſis montibus Orni:
Litora Myrtetis lætiſſima: denique apertos
Bacchus amat colles, Aquilonem & frigora Taxi.
Aſpice & extremis domitum cultoribus orbem,
Eoasque domos Arabum, pictosque Gelonos.
Diviſæ arboribus patriæ. Sola India nigrum
Fert Ebenum: ſolis eſt Thurea Virga Sabæis.

P. Virgilii Georg. Lib. II. 109.

Namque

Namque non omnia in omnibus locis naſci docuimus, nec tranſlata vivere. Hoc alias faſtidio, alias contumacia, ſæpius imbellicitate eorum quæ tranferantur evenit: alias Cœlo invidente, alias Solo repugnante. Faſtidit Balſamum alibi naſci: nata Aſſyria malus alibi ferre; nec non et Palma naſci ubique aut nata parere: vel cum promiſit etiam oſtenditque ea educare, quæ tanquam invita peperit. Non habet vires Frutex Cinnami in Syriæ vicina perveniendi. Non ferunt Amomi nardi deliciæ, ne in Arabia quidem ex India, et nave peregrinari. Tentavit enim Seleucus Rex. Illud maxime mirum ipſas Arbores plerumque exorari ut vivant, atque tranſmigrant: aliquando et a ſolo impetrari, ut alienas alat, advenasque nutriat: Cœlum nullo modo flecti. Vivit in Italia piperis arbor: Caſiæ vero etiam in Septentrionali plaga: vixit in Lydia Thuris: ſed unde ſorbentes Succum omnem ex iis Soles coquentesque Lachrymam?— Illud proxime mirum, mutari naturam in iiſdem, atque pro indiviſo valere. Cedrum æſtuoſis Partibus dederat et in Lyciis Phrygiisque Montibus naſcitur. Frigus inimicum Lauro fecerat, ſed in Olympo copioſior nulla eſt. Circa

 Boſphorum

Boſphorum Cimmerium in Panticapæo Urbe, omni modo laboravit Mithridates Rex, et ceteri Incolæ, ſacrorum certe cauſa, Laurum Myrtumque habere: non contigit cum Teporis Arbores abundent ibi, Punicæ, Ficique jam Mali et Piri laudatiſſimæ.

Plin. Hiſt. Nat. Lib. XVI. Sec. 58. Ed. Harduin. 4to. Tom. III. 271.

Μεγάλη δὲ διαφορὰ πρὸς καρπὸν καὶ ἀκαρπίαν καί ἡ τῶν τόπων φύσις. ὥσπερ ἐπί τε τῆς Περσίας εχει καὶ τῶν φοινίκων. ἡ μὲν ἐν Αἰγύπτῳ καρποφορεῖ, καὶ εἰπε τῶν πλησίων τόπων. ἐν Ῥόδῳ δὲ μέχρι τε ἀνθεῖν μόνον ἀφικνεῖται. ὁ δὲ φοίνιξ περὶ μὲν Βαβυλῶνα θαυμαστῶς· ἐν τῇ Ἑλλάδι δὲ, ἐδὲ πεπαίνει. παρ᾽ ἐνίοις δὲ ὅλως ἐδὲ προφαίνει καρπόν ὁμοίως δὲ καὶ ἕτερα πλέιω τοιαῦτά ἐστιν.

Diſcrimen autem ad fæcunditatem ſterilitatemque ſummum vel locorum natura facere poteſt: ut in Perſica, Palmisque patet. Perſica enim in Ægypto & locis proximis frutificat, quanquam in Rhodo usque florem duntaxat devenit. Palma apud Babylonem fructum mirum in modum largitur. In Græcia vero ne fructum quidem maturat: apudque nonnullos

nullos nec fructum ullum oftendit. Simili modo etiam alia pleraque hujufmodi percipiuntur.

Theoph. Hift. Plant. Lib. III. C. 5.

Vide etiam Ælian. de Nat. Animal. Lib. VIII. C. 21. Plinii Hift. Nat. Lib. II. Sec. 106. Ed. Harduin. 4to. 252. Senec. Quæft. Nat. C. 21. 872. Arift. Lib. III. Hift. Animal. C. 10.—et præ omnibus clariffimum Guliel. Falconer, M. D. "Effay on Climate," qui mira Eruditione et Induftria Rem totam exantlavit.

240. *Momoniæ in pratis Limerici mœnia propter*
Impete præcipiti latrantum fubter aquarum,
Sive falo venere, ruant fub montibus altis,
Eruta deferuit dominum, pontoque tetendit
Infula.————

Idem in agro Cumbrienfe accidiffe videtur, quod Gulielmus Gilpin in Itin. fuo pulcherrime defcripfit.

On the 16th of November, 1771, in a dark and tempeftuous Night, the Inhabitants of the Plain were alarmed with a dreadful Crafh, which they could in no way account for. Many of them were then abroad in the Fields, watching their

their Cattle; left the Esk, which was rising violently in the Storm, should carry them off. None of the miserable People could conceive the Noise they heard to proceed from any but the Overflowing of the River in some Shape, though to them unaccountable. Such indeed as lived near the Source of the Eruption, were sensible that the Noise came in a different Direction; but were equally at a Loss for the Cause. In the mean Time, the enormous Mass of fluid Substance, which had burst from the Moss, (Solway) moved slowly on, spreading itself more and more as it got possession of the Plain. Some of the Inhabitants, through the Terror of the Night could plainly discover it advancing, like a moving Hill. This was in fact the Case, for the gush of Mud carried before it, through the first two or three hundred Yards of its Course, a Part of the Breast-work, which though low, was yet several Feet in perpendicular Height.—But it soon deposited this solid Mass and became a heavy Fluid. One House after another is spread round —filled—and crushed into Ruin; just giving Time to the terrified Inhabitants to escape. Scarce any thing was saved

except

except their Lives: nothing of their Furniture: few of their Cattle. Some People were even surprised in their Beds, and had the additional distress of flying naked from the Ruin. This dreadful Inundation, though the first Shock of it was the most tremendous, continued still spreading for many Weeks till it covered the whole Plain.—An Area of five hundred Acres, and, like molten Lead, poured into a Mould, filled up the Hollows of it, lying in some Parts thirty or forty Feet deep, reducing the whole to one level Surface.

Observations on Picturesque Beauty made in 1772.
Vol. II. 136. second Ed.

247. *Audomarum contra sic nant Delphinia Contis*

Haud magni sunt hæ duæ Insulæ quas vidi sæpissime.—In variis regionibus occurrunt hæ Πλοαδες, ut testantur Hist. Nat. et Geograph. Auctores.

Lacus est in similitudinem jacentis Rotæ circumscriptus, et undique æqualis; nullus sinus, obliquitas nulla, omnia dimensa, paria et quasi Artificis manu cavata et excisa. Color

Cœruleo

Cœruleo albidior; viridior et preſſior Sulphuris: Odor Saporque medicatus: vis, qua fracta ſolidantur; Spatium modicum, quod tamen ſentiat ventos, et fluctibus intumeſcat. Nulla in hoc navis (ſacer enim eſt) ſed innatant Inſulæ herbidæ omnes arundine et junco tectæ, quæque alia fæcundior palus; ipſaque illa extremitas lacus effert. Sua cuique figura ut modus: cunctis Margo deraſus quia frequenter vel litori vel ſibi illiſæ terunt teruntur que. Par omnibus altitudo, par levitas: quippe in ſpeciem carinæ humili radice deſcendunt. Hæc ab omni latere perſpicitur. Eadem aqua pariter ſuſpenſa et merſa. Interdum junctæ copulatæque et continenti ſimiles ſunt; interdum diſcordantibus Ventis digeruntur: nonnunquam deſtitutæ tranquillitate, ſingulæ fluitant. Sæpe minores majoribus, velut Cymbulæ onerariis, adhæreſcunt; ſæpe inter ſe majores, minoreſque quaſi curſum certamenque deſumunt; rurſus omnes in eundem locum appulſæ, qua ſteterunt, promovent terram, et modo hac, modo illac, lacum reddunt auferuntque: ac demum, quum medium tenuere non contrahunt. Conſtat, pecora herbas ſequuta, ſic in Inſulas, ut in extremam ripam,

pam, procedere ſolere, nec prius intelligere mobile ſolum, quam litore abrepta, quaſi illata ét impoſita circum fuſum undique lacum pavent; mox quo tulerit ventus egreſſa, non magis ſe deſcendiſſe ſentire, quam ſenſerint aſcendiſſe.

C. Plinii Secundi Epiſt. Lib. VIII. 21.

Τῶν δὲ νησων τῶν πλοάδων τῶν ἐν Ὀρχομενῷ, τὰ μὲν μεγέθη παντοδαπὰ τυγχάνει· τὸ δὲ μέγιϛον αὐτῶν ἐϛιν ὅσον τριῶν ϛαδίων τὴν περίμετρον. ἐν Αἰγύπτῳ δὲ μεγάλας σφόδρα συνίϛασθαι, ὥϛτε καὶ ὗς ἐν αὐτοῖς ἐγγίνεσθαι πολλούς. οὓς καὶ κυνηγετοῦσι διαβαίνοντες.

Inſulis autem fluitantibus, quæ in Orchomeno ſunt, magnitudo utique multifaria, ſed quæ ampliſſima ad ternorum ambitum ſtadiorum ſpectatur. At in Ægypto magnæ admodum coagmentantur, ut & ſues permulti in eis naſcantur, quos incolæ tranſeuntes venari conſuevere.

Theophraſt. Hiſt. Plant. Lib. IV. C. 13.

Ipſe ad Cutilias natantem inſulam vidi. Alia in Vadimonis lacu vehitur, alia in lacu Statonienſi. Cutiliarum Inſula et arbores habet, et Herbas nutrit, tamen Aqua ſuſtinetur: et in hanc atque illam partem non tantum vento impellitur

ſed

ſed et aura. Nec unquam illi per diem et noctem in uno loco ſtatio eſt: adeo movetur levi flatu. Huic duplex cauſa eſt. Aquæ gravitas medicatæ, et ab hoc ponderoſæ, et ipſius inſulæ materia vectabilis, quæ non eſt corporis ſolidi quamvis arbores alat. Fortaſſe enim leves truncos, frondeſque in lacu ſparſas, pinguis humor apprehendit et vinxit.

Senec. Nat. Quæſt. Lib. III. C. 25.

Vide etiam Plinii Hiſt. Nat. Lib. II. C. 94.—Varenii Geograph. C. 18. Propoſitio 14. P. 215.—Cantab. 1712. 8vo. et Walther de Inſulis natantibus Upſal. 1770.

250. *Minoſæ labor eſt Naturam aperire latentem.*

Weak with nice Senſe the chaſte Minoſa ſtands,
From each rude Touch withdraws her timid Hands;
Oft as light Clouds o'erpaſs the ſummer Glade
Alarm'd ſhe trembles at the moving Shade,
And feels alive through all her tender Form
The whiſper'd Murmurs of the gathering Storm;
Shuts her ſweet Eye-lids to approaching Night,
And hails with freſhen'd Charms the riſing Light.

Datur

Datur contractio ex Frigore, quod corporum fluidorum præſertim in vaporem reſolutorum, motum illico ſiſtit eaque in anguſtiis ſpatium coarctat: atque ex hoc genere videtur eſſe contractio illa in Foliis plantarum Mimoſarum de qua agitur. Frigus enim ſeu Digiti, ſeu ambientis, ſucci in nervis motum expanſivum cohibet, ejus influxam magna ex parte ſiſtit, unde ſponte ſe contrahunt fibræ et foliorum lobos una adducunt; non ſecus ac idem frigus corporis noſtri autem condenſare et corrugare, uti e contrario calor eandem extendere ſolet. Lobi autem Foliorum introrſum ad ſe mutuo trahuntur, quoniam fortaſſe Fibrillæ in nervis ſuperiores ſicciores ſunt adeoque promptius et citius contrahuntur, inferiores autem molliores, adeoque facilius cedant et extenduntur.

J. Ray. Hiſt. Plant. Lib. I. C. 2.

Plus habent ingenii forſan quam veritatis hæ duæ noſtri auctoris et J. Ray de Mimoſa Hypotheſes, et clar. Eraſmo Darwin potius aſſentior, nihil adhuc de ejus Collapſione certum eſſe arbitranti. Ita ſane loquitur.

Naturaliſts

Naturaliſts have not yet explained the immediate Cauſe of the Collapſing of the Senſitive Plant. The Leaves meet and cloſe in the Night, during the Sleep of the Plant, or when expoſed to much Cold in the Day-time, in the ſame Manner as when they are affected by external Violence, folding their upper Surfaces together, and in part over each other like Scales or Tiles, ſo as to expoſe as little of the upper Surface as may be to the Air, but do not indeed collapſe quite ſo far ſince I have found, when touched in the Night during their Sleep, they fall ſtill farther, eſpecially when touched in the Foot-ſtalks, between the Stems and Leaflets, which ſeems to be their moſt ſenſible or irritable Part. Now as their Situation after being expoſed to external Violence reſembles their Sleep, but with a greater Degree of Collapſe, may it not be owing to a numbneſs on a Paralyſis conſequent to too violent* Irritation like the Faintings of Animals from Pain or Fatigue.

Loves of the Plants. 32.

271. *inde*

* Vide Gmelin—de Irritatione Vegetabilium in Chriſtiani F. Ludwig Delectu opuſculorum ad Scientiam Naturalem ſpectantium. 8vo. Lipſ. 1790. et illuſtrem Comitem dal Covolo—Diſcorſo della Irritabi-

271. ———*inde, fatiſcunt*

Stamina fibrarum, & traxere ſoluta ruinam.

Si verum eſſet quod narratur, ingenioſiſſima certe eſt hæc Hypotheſis, ſed de Flore ipſo adhuc etiam dubito.

306. *Affines ſibi quisque fecere per Axem,*

Et rectis fugerent æternum callibus ambo,

Ni denſæ obſtarent Nebulæ, ———

Aliena prorſus et inutilis ad Philoſophandum Propenſio. In eadem autem nonnulla eſt inter Miltonum* Poetamque noſtrum ſimilitudo et id quod illuſt. T. Newton in ſuo celeb. Commentario ad Paradiſum amiſſum obſervavit, utroque certe convenit.**

litate d' alcuni Fiori nuovamente ſcoperta in Firenzi. 1764. Clariſſ. Boerhaave folia Mimoſæ Syſtole & Diaſtole gaudere dixit. Ind. alter. Plantarum Hort. Academ. Ludg. Batav.—P. 11. L. B. 1727. P. 55.

* Vide Paradiſum Amiſſum. Lib. x. Lin. 651. usque ad 706.

** In this Account of the Winds, is a needleſs Oſtentation of Learning. Theſe are the Foibles and weak Parts of our Author, and of theſe it may be truly ſaid,

Such labour'd Nothings in ſo ſtrange a Stile
Amaze the Unlearn'd and make the Learn'd to ſmile.

Newton's Notes on Paradiſe Loſt. B. x. 699.

328. *Vorticuli totis connixi viribus omnes*
Irruere in Chalybem,———

Egregiæ credulitatis exemplum! ex Ferri prava et imperfecta Qualitate, Terræque Argillaceæ Humiditate id ſæpius accidiſſe arbitrarer. Sunt tamen qui ſingularia nonnunquam aucupantur. Inter eos fortaſſe Poetæ noſtro et hic Locus eſt. Si fas ſit

——Parvis componere magna.

" on peut dire de lui qu'il a bati Chalcedoine ayant le Rivage de Byſance devant les Yeux."*

344. *Sed Petala & Calyces florum non dignor honore,*

Multum ſane de definitione Floris altercati ſunt Botanici. Eſſentiam Floris in ſuperbiente Corolla collocarunt haud Pauci, quam ſententiam amplexus Knautius flores apetalos unquam dari negavit. Experientia vero et Autopſia ducibus, Plantas haud infrequenter occurrere patet, quarum aliæ Calyce deſtituuntur, ut Tulipæ, Fritillariæ, &c. et aliæ Corolla, ut Gramina, Typha, Sparganium, Pinus. Aliæ Filamentis ſtaminum, ut Ariſtolochia, aliæ demum ſtylo, ut Tulipa Parnaſſia. Omnes vero Flores, et tot quot unquam

* Montesquieu. De l' Eſprit des Loix Livre xi. Chap. 6.

unquam exiſtunt aut antheris inſtruuntur, aut ſtigmatibus, aut ambobus ſimul ornantur, ita ut in unaque ſpecie vegetabilium antheras adeſſe vel ſtigmata, et in hiſce ergo Partibus conſtituendam eſſe Eſſentiam Floris, nemo non videat.

Linn. Amœn. Acad. Tom. 1. 352. Ed. Erlang. 1787.

Omnis Flos Antheris et Stigmatibus componitur.

Linn. Fund. Bot. 140.

354. ———*vel ſola ovaria cernas*
Enatis ſuppoſta tubis, impoſta placentis,
Aut ambo juncta invenies: ſtamina geſtat
Cannabis hæc florens, ovaria Cannabis illa,

In flore adeſſe debent organa genitalia utriusque Sexus. Obſerves tamen quod non ſemper in uno eodemque Flore ſint organa genitalia utriusque Sexus. Sufficiat quod in uno Flore adſint Organa genitalia maſculina, in altero fæminina.

Linn. Amœn. Acad. Tom. 1. 353. Ed. Erlang. 1787.

359. *Nunquam ego ſtamineos vidi ſoboleſcere flores,*
Poſt Venerem exhalant Animas,——

S' il arrive que ſur un meme picd de Plante, il ſe recontre

des Fleurs, qui n' entourent que des Organes Feminines et d' autres où ſe trouvent les deux ſexes: la Tenſion où le Gonflement des Organes Maſculines de celle-ci ſe fait ſi ſubitement que les Lobes du Bouton cedant a leur Impetuoſitè ſ' ecartent ça et la, avec une Celeritè ſurprenante. Dans cet Inſtant, ces fougeux qui ſemblent ne chercher qu' à ſatisfaire leurs violents tranſports, ne ſentent pas plustot libres, qui faiſant brusquement une decharge generale, un Tourbillon de Pouſſiere, qui, ſe repande, porte partout la Fecunditè, et par un etrange cataſtrophe ils ſe trouvent tellement epuizès, que dans le meme inſtant qu' ils donnent la vie, ils ſe procurent une morte ſubite.

Vaillant Diſcourſe ſur la Structure des Fleurs. 26.

386. ————*ille Minerva*

Plenus ait, ſenſi Flores, contendite remis,

In manibus Terræ.———

Auræ Fragrantiam ex inſulis Hyeribus venientem et

" Dolce Confuſion di mille Odori"*

ad

* Adon. di Marino. C. 1. St. 13.

ad Littus Maris Mediterranei prima mane et Hora vefpertina fæpe egomet fenfi, necnon clar. Albert's Haller in Phyfiologia fua idem notavit.

Porro per aerem odori plantarum Spiritus penitus oberrant, paffim adeo conferti, ut qui Ceyloniam Infulam prætenavigant, ad aliquot Milliarium Ambrofiacos beatæ Regionis odores percipiant.

Haller. Phyfiolog. Lib. VIII. Sec. 3
4to. Ed. 1761. Vol. III. 221.

Et Miltonus Nofter,

———As when to them who fail
Beyond the Cape of Hope, and now are paft
Mozambic, off at Sea North-eaft Winds blow
Sabæan Odors from the fpicy Shore
Of Araby the bleft; with fuch Delay
Well pleas'd they flack their Courfe, and many a League
Chear'd with the grateful Smell old Ocean fmiles.

Paradife Loft. Book IV. 159.

397. ———*Si quando apparet in Hortis,*
Luxurie Petalorum, & odoro infignis amictu

Quem neque Fœmineis Maribusque, nec Hermaphroditis
Annumerare queas Florem, de gente Spadonum eſt,
Vel Monſtrum infelix,———

Luxuriantes flores nulli naturales ſed omnes monſtra ſunt: Pleni enim Eunuchi evaſerunt, adeoque ſemper abortiunt. Multiplicati, non æque; Proliferi Monſtroſorum augent deformationem.

Linn. Fund. Botan. 150.

Omnes Flores luxuriantes merito intra monſtra collocamus, cum tranſmutentur partes eſſentiales, diverſamque induant figuram et Naturam, quod haud parum admirantur ignari, quibus flores pleni et multiplicati in deliciis ſunt.——— Quum Flores hi ſtaminibus deſtituantur, privantur etiam organis genitalibus maſculinis, ſtigmata fecundantibus; nulla vero ſemina ante fecundationem, progerminare poſſunt, ergo hi Flores ſeminibus careant neceſſe eſt; Dianthus, Hepatica, Cheiranthus, Tropæolum, Punica, Roſa, Ranunculus, Caltha, Lychnis, Viola, Leucoium, Pæonia, Narciſſus flores ferunt plenos, quarum ſemina nunquam reportare licet, ſed e ſtolonibus multiplicandæ ſunt Plantæ.—

Papaver,

Papaver, Nigillam aliosque flores luxuriantes interdum ſemina proferre novimus, quia manent ſtamina eorum nonnulla piſtillum fecundantia.

Linn. Amœn. Acad. Tom. I. 379, 380.

Ces Fleurs doubles qu' on admire dans les Parterres ſont des Monſtres depourvùs de la Facultè de produire leur ſemblable, dont la nature a douè tous les Etres organiſès. Les Arbres Fruitiers ſont à-peu près dans le même cas par le Greffe; vous aurez beau planter des pepins de Poires et de Pommes des meilleurs especes, il n'en naitra jamais que des Sauvageons.

Rouſſeau, Lett. Element. ſur la Botanique.
Tom. XIV. 503. Ed. 8vo. Genev. 1782.

409. *His adſunt Calyces, ollis Natura negavit:*
Si l' on demande pourquoi toutes les fleurs n' ont point de Calice, on repondra que celles qui ſont d'une conſiſtence epaiſſe, ou chanuë, ainſi que les teguments de leurs ovaires, comme en la plupart des Plantes Liliaceès, à la Pulſatilla, &c. &c. &c. n'en avoient que faire, etant de leur Nature à l'epreuve de tout evenement. Et que le Createur dont l'in-

ſinie Sageſſe eclate et ſe fait admirer jusque dans ſes plus petits ouvrages n'en a donnè de bien marques qu'a trois ſortes de fleurs. 1. a celles qui pour etre trop minces et trop delicates comme au Pavot, au Ciſte, &c. &c. n'auroient peu ſans cette eſpece de Surtout, reſiſter aux moindres injures de Temps. 2. a celles qui pour avoir des Petales trop courtes et trop etroits, auroient expoſè a nud des Organes analogues a ceux que la Pudeur veut abſolument, que l'on cache, les quels ſe ſeroient fletris et uſès avant que de pouvoir ſervir. Telles ſont les Fleurs dè l' Elleborus niger, de l'Aconitum, de la Nigella, &c. &c. 3. Enfin il en a pourvù tout de celles dont la Chute auroit indubitablement etè ſuivie, de la Perte des ovaires, qui pour ſe trouver compoſès et tres foiblement attachès autour d'une eſpece d'Axe comme dans les plantes Aviferes ou Labrieès dans les Borragineès, dans une partie des Malvacèes, &c. &c. ſe ſeroient detachès au moindre Ebranlement ſ'ils n'eúſſent etè appuiès ou adoſsès d'un Calice; ou qui pour être d'une Etoffe fort legere, comme au Geranium a l'a Mauve, &c. &c. auroient bientot pouri par trop de Chaud où trop de Froid ſans l' Abri

de

de ce Rempart, qui le plus ſouvent eſt double dans les Plantes Malveès.

Vaillant, Diſcours ſur la Structure des Fleurs. 30.

419. ————————*ſed omnes*
Eminet una ſuper mœſtiſſima Granadilla.

Inter Plantas americanas, profecto non reticendum eſt Paſſifloræ genus, quod e ſingulari Structura fructificationis præſertim ſuperſtitioſos Romano-Catholicos in ſui admirationem rapuit, cum in hiſce ſibi perſuadebant Clavos, Coronam, Flagellam, Lanceam, et cetera cruciatuum ac torturæ Inſtrumenta Salvatoris videre. Mox fama hujus floris totam fere Europam peragravit, tamque altas in animis creduli vulgi opinio hæc radices agere cœpit, ut hoc etiam tempore non ſolum Ruſtici ſed quoque Hortulanorum plerique ad ejus adſpectum quadam admiratione afficiantur.—Plunkenetius novum nomen genericum flori huic impoſuit, et eum, uno vocabulo Paſſifloram nominavit, quodque tamen adhuc inter Syſtematicos ut convenientiſſimum receptum eſt. —Itali fuere qui huic generi primum Granadillæ nomen impoſuere,

impoſuere, cum ſtructura, figura et Color fructus in quibus, ſpeciebus maximam præ ſe ferebat ſimilitudinem cum fructu parvo Punicæ, in officinis Granatum dicto.—Flos Paſſionis cur dictum ſit hoc plantarum genus, docebit Joh. Baptiſt. Ferrarius, quando contendit paſſionem Domini noſtri, manu Amoris Divini, vivis inſcriptum eſſe flori coloribus, dum partes ejuſdem Coronam ſpineam, Clavos, Flagellum reliquaque quibus cæſus, tortus, vulneratus et cruci affixus eſt Salvator mundi, egregie exprimant inſtrumenta.—Ut vero inſtrumenta Paſſionis Chriſti in hoc flore demonſtrent, ſpeciem Paſſifloræ incarnatæ foliis trilobis ſerratis primitus detectam aſſumunt, in qua Folia trifida dicunt Lanceam qua Salvatoris pectus perforabatur, Cirrhos contortos flagella quibus cœſus, nectaria Sanguinis punctis coronam ſpineam, piſtilla inferne anguſtiora Clavos tres, quibus pedes et manus perforati.

Linnæi, Amœn. Acad. Tom. 1. 212. 214. 241.
Ed. 3d. Erlang. 1787.

Pulcher in America moſco redolentior eſt Flos,
Qui gerit occiſi nobile ſtemma Dei.

Conſcia

Confcia flagrorum croceo ftat in orbe columna,
    Circumftant granis vulnera quinque rubris.
Cum Clavis refidet fpinofum in Vertice fertum
    Refperfus violam pingit ubique cruor.
Vifitur in Planta foliis penetrabile Ferrum,
    Sacrum quo fodit Lancea dira latus.
Sed quæ vulnifici flores dant poma cadentes,
    Ambrofius mifcet nectareusque fapor.
Portenti novitas, et confona Rebus imago
    Adftruit antiquam clarificatque fidem.
Miffaque Pontifici Romano circuit orbem
    Fertque falutiferæ nuntia læta crucis.

Nierenberg. Hift. Nat. 229.

Ferventes etiam tum Granadilla per Æftus
Prodit, Amazonii quam litore fluminis ortam,
Ad nos extremo Peruvia misit ab orbe.
Caule in fublimi Vallo prætendit acuto
Spinarum in morem, patiens O Chrifte, tuorum
Infcriptis foliis fumma inftrumenta dolorum.

Nam

Nam ſurgens flore e medio capita alta tricuſpis
Surſum tollit apex clavos imitatus aduncos.

Rapin. Lib. 1.

Sæpiſſime et ſumma diligentia Paſſifloram obſervavi ſed nihil unquam reperi, quod crucis vel clavorum ſimilitudinem habuerit.

Ut paucis expediamus, confer Aldinum in Horto Farn. —In hac tota Planta Crux non apparet, nec Lanceam video. Corona ex 72 ſpinis, quæ in hoc Flore debet conſpici, merum figmentum eſt. Alia ergo attuli, per vim contorſi, et idem in infinitis plantis facere poſſim, et ſic per conſequens infinitæ forent plantæ Paſſionis.

Ald. Hort. Farn. 49. 56.

431. *Indicat & varias Petalorum Copia gentes.*
Se gens hæc uno veſtit,——

Ut Convolvulus, Primula, &c. &c.

432. ————*ſe pluribus illa.*

Duobus, ut Circæa, Commelina.—Tribus, ut Aliſma, Sagittaria.—Quatuor, ut omnes Tetradynamiæ.—Quinque,

ut

ut Plantæ Umbelliferæ.—Sex, ut Tulipa, Lilium, Podophyllum.—Novem, ut Thea, Magnolia Liriodendrum:—Pluribus, ut Nymphæa, &c. &c. &c.

447. *Nunc tibi compoſitos perſtringam ex ordine flores*, La partie la plus eſſentielle d'une fleur compoſeè eſt le receptacle ſur lequel ſont plantès, d'abord les fleurons et demifleurons, et enſuite les graines qui leur ſuccedent. Ce rèceptacle qui forme un disque d'une certaine etendue fait le centre du calice, comme vous pouvez voir dans le Piſſenlit que nous prendrons ici pour exemple. Le calice dans toute cette famille eſt ordinairement decoupè jusqu' à la baſe en pluſieurs pieces afin qu'il puiſſe ſe fermer, ſe rouvrir et ſe renverſer, comme il arrive dans le progrès de la fructification, ſans y cauſer de dechirure. Le calice du Piſſenlit eſt formè de deux rangs de folioles inſerès l'un dans l'autre, et les folioles du rang exterieur qui ſoutient l'autre ſe recourbent et replient en bas vers le pedicule, tandis que les folioles du rang interieur reſtent droites pour entourer et contenir les demi-fleurons qui compoſent la fleur.—Une forme

encore

encore des plus communes aux calices de cette claſſe, eſt d' être imbriquès, c'eſt-â-dire, formès de pluſieurs rangs de folioles en recouvrement, les unes ſur les joints des autres, comme les tuiles d'un toit, L'Artichaut, Le Bluet, La Jaceè, la Scorſonere vous offrent des exemples de calices imbriquès.

491. ———*Sherardi*,

Gulielmus Sherard, " Botanices Scientia," ut de Fratre obſervatum fuit, " pene ſingularis."* Natus eſt A. D. 1659, obiit 1728.

521. ———*te, Granadilla, tenebat*

Deficiente manu,———

Te ſpectem, ſuprema mihi quum venerit hora
Te teneam moriens deficiente manu.

Tibullus, Lib. I. Eleg. 1. 59.

* Vide. Pultney. Hiſt. & Biograph. Sketches of Botany. Vol. II. 141, &c. &c. &c. 8vo. Lond. 1790.

F I N I S.

E R R A T A.

Pag. 39. Lin. 1. pro *Frontibus* lege Frondibus.

47. Lin. 370. pro *grvaidantem* lege gravidantem.

79. Lin. 11. pro *traches* lege tracheès.

84. Lin. 11. poſt *(Geoff. Nat. Med.* 2. 417.) lege Linn. Amœn. Acad. Tom. 1. Sponſalia Plantarum. Ed. tert. Erlang. 1787.

99. Lin. 2. proferendam *proferendam* dele *proferendam.*

122. Lin 12. pro *Minoſæ* lege Mimoſæ.

138. Lin. 6. poſt *imbriques* lege Rouſſeau. Lett. Element. ſur la Botanique. Tom. xiv. Ed. 8vo. Genev. 1782.



